

UNIVERSITY
PENNSYLVANIA
LIBRARIES



RED HALL REVISITED:
AN ARCHITECTURAL STUDY
OF
THE MAIN BUILDING
IN
TAIWAN'S EARLIEST PUBLIC HIGH SCHOOL

Yun-Shang Chiou

A THESIS

in

Historic Preservation

Presented to the Faculties of the University of Pennsylvania in
Partial Fulfillment of the Requirements for the Degree of

MASTER OF SCIENCE

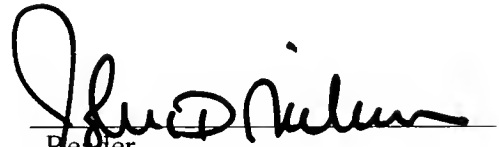
2001



Advisor

David G. De Long, Ph.D.


Professor of Architecture



Reader

John Milner, AIA

Adjunct Professor of Architecture



Graduate Group Chair

Frank G. Matero

Associate Professor of
Architecture

UNIVERSITY
OF
PENNSYLVANIA
LIBRARIES

Acknowledgments

My thanks first go to my advisor, David De Long. His insight in the transformation of architecture currents in the pre-modernism era has inspired me in many aspects of this thesis. I am grateful to John Milner, whose architecture practice has glorified the endeavors of our predecessors and dignified those of ours. It is my great honor to conduct the design study of this thesis under his supervision.

In addition, There are several individuals assisting me in data collection. Miss Wang, the secretary of Chien-Kao High School Alumni Association; Ping-Li Tzai, retired Professor of National Taiwan University, Chien-Kao High School Alumni of Class 1950 have especially provided me invaluable information and documents for my thesis study.

Finally, I wish to thank my parents' endless love and support. It takes great courage to believe in someone who constantly changes his goal. I also like to thank my wife, Chen-Shan Wang's company. I am very lucky to share my clueless thoughts and journey of life with her.

Table of Contents

Acknowledgments	ii
List of Illustrations	iv
Introduction	1
<i>Objective</i>	
<i>New Millennium, New Vision</i>	
<i>Research Method for Reconstructing the 1950s Red Hall</i>	
Chapter One: History	5
<i>Chien-Kao High School and its Time</i>	
<i>Reconstructing Red Hall</i>	
<i>The Significance of Red Hall</i>	
Chapter Two: Design	65
<i>Design Philosophy for Future Intervention</i>	
<i>Example: Design a New Circulation for Chien-Kao High School</i>	
Conclusion	89
Bibliography	94
Index	97

Illustrations

Figure	Page
1.1 View of Taipei City in Ch'ing Dynasty	15
1.2 Newly Built Chien-Kao High School	16
1.3 Traditional Chinese School in Taipei City, Circa 1885	16
1.4 Bird View of Chien Kao High School in Early Japan Era	17
1.5 1930s Map of Taipei City	17
1.6 Twin Towers of Eton College and those of Chien-Kao High School	18
1.7 Lecture Hall	19
1.8 Student Dormitory	19
1.9 Principal's Residence	20
1.10 Martial Art Gym	20
1.11 Military Training in Wartime	21
1.12 Dirt Color Uniform: Legacy of Japanese Military Regime	21
1.13 First Modernism Building in Campus	22
1.14 Chen-Chin Hall	22
1.15 Ming-Dow Hall	23
1.16 Gi-Ge Hall	23
1.17 Gen-Yi Hall	24
1.18 Chung-Chin Hall	24
1.19 Scientific Hall	25
1.20 Gi-Chung Hall	25

1.21	New Gym	26
1.22	Resource Building	26
1.23	Sport Field Now and Then	27
1.24	Boundary Wall Now and Then	28
1.25	Newly Install Handicapped Ramp	29
1.26	Chronicle of Red Hall	42
1.27a	Red Hall in Chien-Kao High School in 2000	43
1.27b	Various Details of Red Hall	44
1.28	Front and Rear End of Red Hall Main Lobby	45
1.29	South View of Red Hall West Appendage	46
1.30	Remaining Corner Column of Red Hall	46
1.31a	Red Hall in 1950s 3-D Computer Rendering	47
1.31b	First Floor Plan of Red Hall in 1950s	48
1.31c	Elevations of Red Hall in 1950s	49
1.32	Roof of Red Hall during Japanese Regime	50
1.33	Foundation Plinth of Red Hall	51
1.34	Eave Tiles of Red Hall Decorated with Plum Blossom Relief	51
1.35	Red Hall in Demolition	52
1.36	Taipei Kwei-Yang Street Row Houses Built in 1960s	52
1.37	Red Hall Front Elevation in 1970	53
1.38	Original Arched Door (Left) and 1950 Rebuilt Rectangular Door (Right) of Red Hall	53
1.39	Changes of Building Profile in Different Period of Chinese History	54

1.40	Taipei City East Gate Built in Ch'ing Dynasty. Left: Original Right: After 1966 Conversion	55
1.41	Pen-Hu County Government Hall, a Building with Traditional Roof Crown on Top of Modern Concrete Block	55
1.42	Naval Academy in Hiroshima, Japan, Completed in 1893	56
1.43	Ministry of the Naval, Tokyo, Japan, Completed in 1894	57
1.44	Imperial Museum, Tokyo, Japan, Completed in 1881	57
1.45	Imperial Oversea-Transport and Fire-Insurance Company, Tokyo, Japan, Completed in 1908	58
1.46	St. Alban's Church, Holborn, London, Britain, Completed in 1863	58
1.47	Northampton Institute, Islington, London, Britain, Completed in 1893	59
1.48	Marketplace in West Gate District, Taipei, Taiwan, Completed in 1908, Another Project of Kondo Juro	59
2.1	Stairs Separate Classrooms from Toilets, a Common Practice in Chien-Kao High School	77
2.2	Diagram of the Functions of Buildings in Chien-Kao High School	78
2.3	A Scene in Nan-Hai Scholar Garden next Street to-Red Hall	79
2.4	Chien-Kao High School Sport Field Overlook	79
2.5	Red Hall and Modern Classrooms	80
2.6	Red Hall and Shaded Walkway	80
2.7	Diagram of Linear Movements	81
2.8	A Preliminary Layout for New Circulation Based on Function	82
2.9	A Conceptual Sketch Demonstrating the Restoration of the Spatiality of Courtyards in the Historic Red Hall	83
2.10	Overall Plan, Elevations and New Floor Plans of the New Circulation	84

2.11	New Courtyard and Corner Chamber Sections	85
2.12	New Campus-Wide Shaded Walkway System (Bottom) and the New Courtyard it creates(Top)	86
2.13	New Corridors (Bottom) and its Round Arched Roof (Top)	87
2.14	Side, Top and Under Views of the Floating-Column Tensile Structure System for the Transparent Glass Ceiling in New Corner Chambers	88

Introduction

Objectives

Ever since I was a student in Chien-Kao High School, I wondered about the story of its beautiful red brick building. It looked so old and seemed to have been standing there forever. Later on I learned that Red Hall, the main building of Chien-Kao High School, is the earliest modern high school building in Taiwan. Three quarters of the original structure had been torn down long before I first saw it. Unfortunately, there is no drawing of it as it was originally built.

Thus, the aim of this thesis is two-fold. The first is to draw a reconstruction of Red Hall, the only original building in the Chien-Kao High School campus, in its 1950s condition. The second is to develop the knowledge acquired from this historic building into a philosophy for guiding future campus development. A design proposal will examine the feasibility of this design philosophy from the viewpoint of a design professional.

New Millennium, New Vision

My attitude toward Taiwan's recent past is the main reason for my interest in this specific topic. It is what inspires me to both examine the past and design for the future in one thesis. Red Hall has always been the symbol and pride of Chien-Kao High School alumni, from the Japanese era to this day. We should not forget, however, that Chien-Kao High School was not created for the Taiwanese people. It was built for the children of the Japanese ruling class, and thus began as a symbol of discrimination and segregation. Even though the Colonial Japanese Government's modern education for Taiwanese

children was later intended to improve the skills and loyalty of the local people and to exploit the resources of Taiwan, Chien-Kao High School became the prototype for Taiwan's modern educational system. Thus, the value of education became rooted into Taiwanese culture. The public's attitude toward new knowledge was a key factor in the success of Taiwan's modernization. The power of knowledge again played a strong role during Taiwan's democratization movement in the 1980s. According to the 1990 Taiwan Census, the illiteracy rate of those under age 50 is less than 1 %, and more than two million Taiwanese have degrees of college level or higher. All of this progress and achievement in education started right from this school, right from this building.

The turbulent nineteenth and twentieth centuries have brought much suffering to Taiwan. They show a history of people being betrayed and enslaved. There is no way to change what has happened, and the Ch'ing Empire, Japanese military regime, and the once-dictatorial Chinese Nationalist Party are all gone, so a possible object for hatred or revenge doesn't even exist today. The recent past is what has made today, and no matter how unpleasant it seems, it must be thoroughly reviewed. In my belief, only when we can enjoy the sweet fruit grown from this suffering as much as we recall the bitterness of it, are we able to heal the deep wound in our memory. Forgiveness is not enough; we must take the key forged by our sad history and use it to open the door to a future of long-lasting peace and prosperity. An unprejudiced view of our former rulers' legacies, and the ability to turn them to our advantage, is exactly what I intend to achieve in this study. Past, present and future are metamorphoses on a single time continuum, but it is only the present that connects the past with the future and makes this continuum meaningful.

Research Method for Reconstructing the 1950s Red Hall

Only part of the front section of the original Red Hall remains today. The creation of the present record drawings started with site survey. Attention was paid to the dimensions of columns, arches, windows, and doors; the details of the capitals and panel molding profiles; the pattern of repetition of architectural elements; construction materials and methods; and a comparison between the original and the restored sections¹.

The second step was to study historic photos. Since Red Hall was largely intact until 1970, as will be explained in Chapter One, photos taken after 1950 can still be informative. The main sources of historic photos are Chien-Kao High School's *Graduation Memorial Books*, published each year since 1950. A few historic photos donated by Japanese alumni that are exhibited in the school's archives date back to the 1920s. Also, the "Taiwan Daily News", a popular newspaper during the Japanese regime, has kept records of some events and photos of Chien-Kao High School. Some illustrated books on Japanese and Western Architecture have also been reviewed as references to the design of that period.

Several interviews with people directly related to Red Hall in the 1950s have also been conducted. The purpose of these interviews was to further understand the qualities of the space, especially the interior space, which was not often recorded in the historic photos.

Parallel to this "visual experience" approach, I also searched for the construction records of Red Hall and Chien-Kao High School in the Taiwan Historic Archives of the National Library, Taiwan Branch, where most pre-war Japanese Colonial Government

documents are collected. I was able to locate some related written documents but no drawings.

¹ This work was done in two site surveys. The first survey was conducted during the first week of January 2000, and the second survey was conducted during the first week of June 2000.

Chapter One: History

Chien-Kao High School and its Time

It is important to place Taiwan's history in the context of China's and Japan's struggles for modernization which began in the 19th century². The significance of Chien-Kao High School in Taiwan's history will not be fully appreciated without this background.

Ever since the first contact between China and the European powers in the early 17th century, there has been continual disagreement and conflict due to the fundamental differences of their national interests. In 1840, the first Anglo-Chinese war broke out, triggered by the Ch'ing court's policy to stop the opium trade, ending Britain's profit in trade with China. The Ch'ing Empire was defeated and the 1759 Ch'ing decree that had closed all ports except Canton to foreign commerce was lifted. The "Opium War" ended with an open trade treaty between Britain and China.

In 1860, British and French joint forces seized Peking, triggered by an argument over the jurisdiction of a commercial boat, "Arrow". Ch'ing Emperor Hsien-Feng fled and died in Inner Mongolia. This was the first stage of a western imperialist invasion of China. The exposure of the Ch'ing court's impotence in dealing with the industrialized western powers forced the succeeding Emperor Tung-Chih to institute changes. He sent young scholars to Europe to learn the secrets of the industrial revolution, expecting that these scholars would eventually transform China into a new power and reclaim the glory

² For a general history of East Asia, see John K. Fairbank, Edwin O. Reischauer, and Albert M. Craig, *East Asia: Tradition and Transformation* (Boston, Mass: Houghton Mifflin Company, 1973). For the modernization of East Asia, see Paul H. Clyde and Burton F. Beers, *The Far East: A History of Western Impacts and Eastern Response, 1830-1975* (Englewood Cliffs, NJ: Prentice-Hall, Inc, 1975).

of the celestial dynasty. This was called the “Tung-Chih Restoration” or “Self-Strengthening Movement”.³

In the year 1853, the American fleet sailed into Japan’s Edo Bay, pointed its guns at Edo City, and demanded the opening of trade. Understanding the insuppressible powers of the industrialized West, the Japanese government didn’t waste time in useless resistance but accepted America’s terms. In 1868, the Tokugawa’s rule collapsed as a consequence of the West’s intrusion, and the Japanese Emperor regained political power. The Meiji Emperor was determined to change the future of his nation. Like the young scholars of China, Japanese scholars were sent to Europe with the mission that one day they would rebuild their country with dignity and pride, using western ways. This was called the “Meiji Restoration”.⁴

The results of these modernization movements were revealed in the 1895 Sino-Japan Battle of Yellow Sea, in which Japan’s imperial fleet defeated the Ch’ing imperial fleet. Sovereignty over Taiwan transferred from China to Japan as a result of this battle. Japan became a major sea power, while the Ch’ing Empire never regained strength. Ch’ing Empire was finally ended in the 1912 revolution led by the Chinese Nationalist Party⁵.

Taiwan’s distance from the center of Chinese politics and culture gave it an opportunity to adopt new ideas more freely and willingly. Even before Japan’s rule, this island province was already noticeably different from Mainland Chinese society. Taipei

³ For more information on Western-China relationships in the 19th century, see Immanuel C. Y. Hsu, *The Rise of Modern China* (New York: Oxford University Press, 1995) p.139-332.

⁴ For more information on Japan’s struggle, see Paul H. Clyde and Burton F. Beers, “Japan, ca. 1840-1864: The End of Exclusion and Seclusion” and “Japan Lays the Foundation of a Modern State” in *The Far East: A History of Western Impacts and Eastern Response, 1830-1975*.

⁵ See Immanuel C. Y. Hsu, *The Rise of Modern China*, p.452-482.

City, built in 1885, was the last Chinese City constructed according to the theory of feng-shui. Integrated into a traditional Chinese cityscape, there were electric streetlights, a railway station, an engine assembly shop, a Western language school, and a weapons factory, as well as a Confucian temple, traditional Chinese residential buildings, and the traditional bureaucratic system (Fig. 1.1).⁶

In 1896, a year after Japan's occupation began, the first over-seas school of Japan, the Taiwan Colonial Government Japanese School, was established in Taipei for the children of Japanese officers stationed in Taiwan. In 1898, the Middle School Department was established. It was a five-year all-boys school. In 1907, the Middle School Department became an independent school called the Taiwan Colonial Government Middle School. In 1909, the Taiwan Colonial Government Middle School moved to the current campus (Fig. 1.2). The many changes in Chien-Kao High School's name continued to reflect the political changes in Taiwan's history. In 1914 the school was renamed the Taiwan Colonial Government Taipei Middle School because another middle school was established in Tainan City. In 1920, it was renamed again because of the rearrangement of Taiwan's jurisdictions, becoming the Taipei County Taipei Middle School. The name of the school again changed in 1922 because other new high schools were established in Taipei. It was called Taipei County Taipei First Middle School until the end of Japan's rule. After World War II, the Chinese Nationalist Government renamed it the Chien-Kao Middle School, which means the "Founding of the Nation". In

⁶ See Chang-Pong Chung, *The Journey of the Old Taipei City* (Taipei: Yuan-Liu Press, 1992) p.18.

1968 Taiwan's compulsory education extended to nine years and Chien-Kao Middle School dropped its junior high school department and became Chien-Kao High School.⁷

Prior to their modernization movements, China and Japan had similar educational systems based on Confucianism. The purpose of Confucian education is to “manifest the ethics”.⁸ In the traditional system there were private “Study Halls” and government-operated “Confucian Schools”. A Study Hall was open to anyone who would pay the tuition, while the Confucian School did not require tuition but only accepted students who passed an entrance exam. Very often, the Confucian School was a part of the Confucian Temple, where the Saint of Knowledge was worshipped, maintained by the government. Pupils studied “Four Books and Five Classics”⁹ in both types of schools. Different levels of examination were related to different levels of government, from local to central, and provided channels into public service. The government used this education-examination system to absorb the social elite into the bureaucratic system¹⁰. Taiwan also followed this Chinese educational system¹¹ (Fig. 1.3). A big difference between the modernization movements of China and Japan is related to differences in their attitudes toward the West. Japanese reformers, led by Emperor Meiji, had a deep

⁷ Fon-Long Chang “A Brief History of Chien-Kao High School”, *Chien-Kao High School Centenary*, Tai-Sheng Chou, Ed. (Taipei, Chien-Kao High School Press, 1998) has a thorough description of all the name changes and development of the school during Japan's rule, and continuing through the Chinese Nationalist Party regime until today.

⁸ The first sentence of the most important Confucianism Book-the Great Learning says, “The Tao (way, aim) of Learning is to manifest the ethic.”

⁹ The Four Books- the Great Learning, the Doctrine of the Mean, the Analects, and the Book of Mencius; The Five Classic (the Confucian canon)-the Book of Change, the Book of Odes, the Book of History, the Book of Rites, and the Spring and Autumn Annals. *Far-East Chinese-English Dictionary* (Taipei: 1999)

¹⁰ China's modern educational system was established with the founding of the Republic of China in 1912, however, in mainland China the literacy rate was still less than 30 % in 1938; see Don Adams, *Education and Modernization in Asia* (Reading, MA: Addison-Wesley Publishing, 1970) p.128-p133.

¹¹ Taiwan's Confucian education started in 1666, the late Ming dynasty period, and the government Confucian schools became obsolete in 1895, when Japan took over Taiwan, although some private Study

appreciation for every aspect of modernized Western society, while the only thing the Ch'ing court admired about the West was their military power. Based on this difference, the Japanese abolished the traditional education system and created a new one based on Western principles, while the Ch'ing court only added a few Western subjects to the traditional education system.¹²

Japan's modern educational system started with the establishment of a cabinet political system in 1871. The new educational system included kindergarten, primary school, junior and senior high schools, college, and graduate school. The new education was accessible to all citizens of Japan, regardless of class or gender. In 1886, the four-year primary school became compulsory. In 1907, compulsory education was extended to six years. At that time the literacy rate was already above 90 % of the Japanese population. The main theme of education was still based on nationalism, but to be a good citizen in a modern society, there is a lot more to learn than Confucianism¹³. The traditional Chinese school only required a lecture hall and a study room, but the modern educational system teaches students more than just literature. Its goals are to provide an understanding of how the world operates and the ability to carry out everyday duties in a rational manner. On the Chien-Kao High School campus, there were classrooms for literature study; labs to examine the principles of science; a music hall for music appreciation; a workshop to learn craftsmanship; and a sports field, a swimming pool, and a gym to make the body strong and agile. There was also a student dorm for students

Halls still survived; see Ian-Chiu Hung, Ed. *Taipei City History: Chapter of Education* (Taipei: Taipei City Government Publishing, 1962) p. 1-25.

¹² See Don Adams, *Education and Modernization in Asia* (Reading, MA: Addison-Wesley Publishing, 1970) p.19-42, and p.117-128.

¹³ For a summary of the evolution of the Japanese educational system, see Makoto Aso, *Education and Japan's Modernization* (Tokyo: Japan Ministry of Foreign Affairs Publishing, 1972) p.103-108.

to learn the ethics of living with others¹⁴ (Fig. 1.4). Chien-Kao High School campus provided a brand-new model of education for Taiwan. It is a model many high schools in Taiwan still apply today.

In Taiwan, the first Japanese modern school was established in a Confucian temple, following common pre-modern educational practices in both China and Japan.¹⁵ In 1908 Japan's Colonial Government constructed a new high school campus outside the South City Gate of old Taipei City¹⁶ (Fig. 1.5). Opened to students in 1909, it is still today the Chien-Kao High School campus. Red Hall, designed by Kondo Juro,¹⁷ was the first classroom building of this earliest modern high school in Taiwan.¹⁸ It was named after its red brick facade. The construction of Red Hall combined reinforced concrete slabs and load bearing brick walls with arch openings. Legend has it that the architectural elements of Red Hall and the new ideology of education were both inspired by Eton College in Britain¹⁹ (Fig. 1.6).

¹⁴ Fon-Long Chang "The Brief History of Chien-Kao High School", *Chien-Kao High School Centenary*, Tai-Sheng Chou, Ed. (Taipei, Chien-Kao High School Press, 1998) has a thorough description of the Chien-Kao High School campus during Japanese rule.

¹⁵ See Chang-Pong Chung, *The Journey of Old Taipei City* (Taipei: Yuan-Liu Press, 1992) p.86.

¹⁶ After finishing its preliminary "city correction" urban plan for Taipei City, Japan's Colonial Government turned its interest to public buildings. Chien-Kao High School is among the earliest examples of this new direction.

¹⁷ Kondo Juro graduated from Tokyo Imperial University's Architecture Department in 1904, and came to Taiwan as the Colonial Government's Architectural Engineer in 1906. His design was deeply influenced by famous "classical revival" Japanese architect Tatsuno Kingo. Red brick with false granite strips characterized "Tatsuno classical-revival style". See Terunobu Fujimori and Tan Wan, Eds. *A Comprehensive Study of East Asia Architecture and Urban Planning: 1840 – 1945* (Tokyo: 1996) p.446-482.

¹⁸ See Ian-Chiu Hung, Ed. *Taipei City History: Chapter of Education* (Taipei: Taipei City Government Publishing, 1962) p.139-140.

¹⁹ According to Professor David De Long's analysis, Red Hall is a building inspired by architectural elements from the currency of classical revival. It is elegantly designed but does not belong to any particular style, and is architecture in its own right. There is a picture of Eton College's twin tower hall in *the Evolution of Taiwan, Taipei First High School* (Tokyo, Japanese Alumni Association, 1985) cover page.

Besides Red Hall, the original campus buildings also included a lecture hall (Fig. 1.7), a student dormitory (Fig. 1.8), a principal's residence (Fig. 1.9), and a martial arts gym (Fig. 1.10). None of the later buildings exist today. Even though the architectural styles of today's campus buildings are different (as are the races of the students and the official language), the campus layout remains similar, and the functions of the buildings are not very different than when the school was established.

World War II brought military life to everything on the island. Chien-Kao High School was no exception. Japanese authorities changed the student uniform to khaki and introduced a military training course (Fig. 1.11). Many students went into the Japanese Imperial Army immediately after graduation, and many died on the battlefield. The school itself was eventually bombed.

The Chinese Nationalist Party regained Taiwan after World War II. Only four years after this victory, the Chinese Nationalist Party lost the civil war and was expelled from Mainland China by the Chinese Communist Party. Taiwan became a military base again. Only this time, it became a stronghold from which the Chinese Nationalist Party fought the Chinese Communists. Many wartime traditions passed from the Japanese rule to the Chinese Nationalist Party regime. Today, khaki student uniforms and a military training course remain as elements of campus life (Fig. 1.12).

The first new construction after World War II was a box-like one-story structure built in 1945. Situated at the front boundary wall, it was the first sign of the coming era of modernist architecture on this high school campus (Fig. 1.13).

The restoration of Red Hall started in 1946 right after the Chinese Nationalist Party took control of Taiwan. In 1958, on the site adjacent to the original east wing of Red Hall, a

box-like three-story concrete classroom, the Chen-Chin Hall (the “Hall of Integrity”) was erected (Fig. 1.14). It is the first multi-story classroom building applying modernist principles, characterized by a flat roof, an emphasis on openness and volume, and the composition of architectural elements intended to express its structure. It is a statement of a change in the Chinese Nationalist Government’s attitude toward campus development. Modernism replaced classical revival, and rebuilding replaced restoration. The next new construction was Ming-Dow Hall (the “Hall of Tao”) built in 1960 (Fig. 1.15). The east wing of Red Hall was torn down in 1966 and Gi-Ge Hall (the “Hall of Knowledge”) was built on that site (Fig. 1.16). Ga-Wu Hall (the “Hall of Reason”) was built in 1967. They are all modernist classroom buildings surrounding the sports field. To relieve the visual pressure of their huge volumes, they have all been given background colors like green and gray which make them less noticeable. Although their architectural style is different, their functions are exactly the same as those of the demolished wings of Red Hall and the other buildings they replaced in order to accommodate more students.

Gen-Yi Hall (the “Hall of Friendship”) was built in 1975 where the west wing of Red Hall was torn down to make way for its construction (Fig. 1.17). It is a mirror image of Gi-Ge Hall. Chung-Chin Hall (the “Hall of Dignity”), built in 1977, has red tiles applied to resemble the central axis of the original Lecture Hall, which it replaced (Fig. 1.18). New classroom buildings that stand on ground, which Red Hall once occupied, have been covered with red tile. New classroom buildings that do not replace earlier structures have been given background colors.

After the construction of Chung-Chin Hall, what remained of Red Hall became the target of demolition for the construction of yet another new classroom building. The

principal's objection to this plan won strong support from the alumni because only Red Hall can materialize the nostalgia and pride of this school for all alumni. The fate of Red Hall was finally safe.

Scientific Hall was built in 1975 (Fig. 1.19), Gi-Chung Hall (the "Hall of Self-Strengthening") was built in 1980 (Fig. 1.20), and the New Gym was built in 1984 (Fig. 1.21). They represent yet another trend of architectural expression. These box-like buildings emphasize mass more than volume, and their background color is an earthen tone of brown which connects them to the adjacent sports field. The Resource Building, constructed in 1994 (Fig. 1.22), is the latest major construction. It contains a library, a computer room, and meeting rooms with the most up-to-date technology. It is also called "New Red Hall" for its respectful echo of Red Hall architectural elements, such as pediment and round arch banding on its exterior elevations. It is a building that has nothing to do with the expression of volume/mass but focuses on a decorative skin.²⁰

The present stage of development of Chien-Kao High School is related to changes that began when the Chinese Nationalist government denounced martial law in 1989. The democratization movement of Taiwan moved along a fast path. The inauguration of the first President ever elected by the Taiwanese people represented a new milestone. It is also the first democratic political system among all Chinese societies.²¹

²⁰ For the post-war development of Chien-Kao High School campus, see Fon-Long Chang "The Brief History of Chien-Kao High School", *Chien-Kao High School Centenary*, Tai-Sheng Chou, Ed. (Taipei, Chien-Kao High School Press, 1998) p.20-50.

²¹ A key factor in this peaceful transformation was the relentless pursuit of democracy by the Taiwanese people and the willingness of the ruling Chinese Nationalist Party (Kuomintang) to give up power through general elections. For further interest on the topic, see Linda Chao and Ramon H. Myers, *The First Chinese Democracy* (Baltimore: Johns Hopkins University Press, 1998) and Steven J. Hood, *The Kuomintang and the Democratization of Taiwan* (Boulder, CO: Westview Press, 1997).

The progress of the democratization movement also brought new ideas to the Chien-Kao High School campus. First, in 1985, seventy-five years after being created, the sports field was converted from sand ground to grass field (Fig. 1.23). The time of hardship is over. There will be no more “devils’ training,” no more “wills of iron”; the purpose of education is to provide a happy and safe environment for our next generation. Steel grates replaced the solid, tall campus boundary wall built in the 1960s (Fig. 1.24). Without the wall’s visual blockade, the campus is no longer segregated from its neighborhood. In 1999, all campus buildings added a handicapped ramp (Fig. 1.25). Though the actual use of this ramp is not entirely practical (there are only elevators in one building), it is a symbol of how the sense of social equality and community has begun to merge into the mainstream values of education. Chien-Kao High School has undergone a long period of transformation, from a school for the ruling class to a role model for Taiwan’s modern high school education. The distinguished alumni of Chien-Kao High School have been involved in developing every aspect of today’s Taiwan. Indeed, some of them even have made great contributions to human society as a whole. They include the chairman of Taiwan’s congress, Chien, Fu; Taipei City Mayor, Ma, Yin-Ju; Nobel Prize winner Dr. Lee, Chen-Dow; and former principal of UC-Berkeley Dr. Tyan, Chun-Lin.²²

²² See “Interviews with Alumni,” *Chien-Kao High School Centenary*, Tai-Sheng Chou, Ed. (Taipei, Chien-Kao High School Press, 1998) p.215-277.

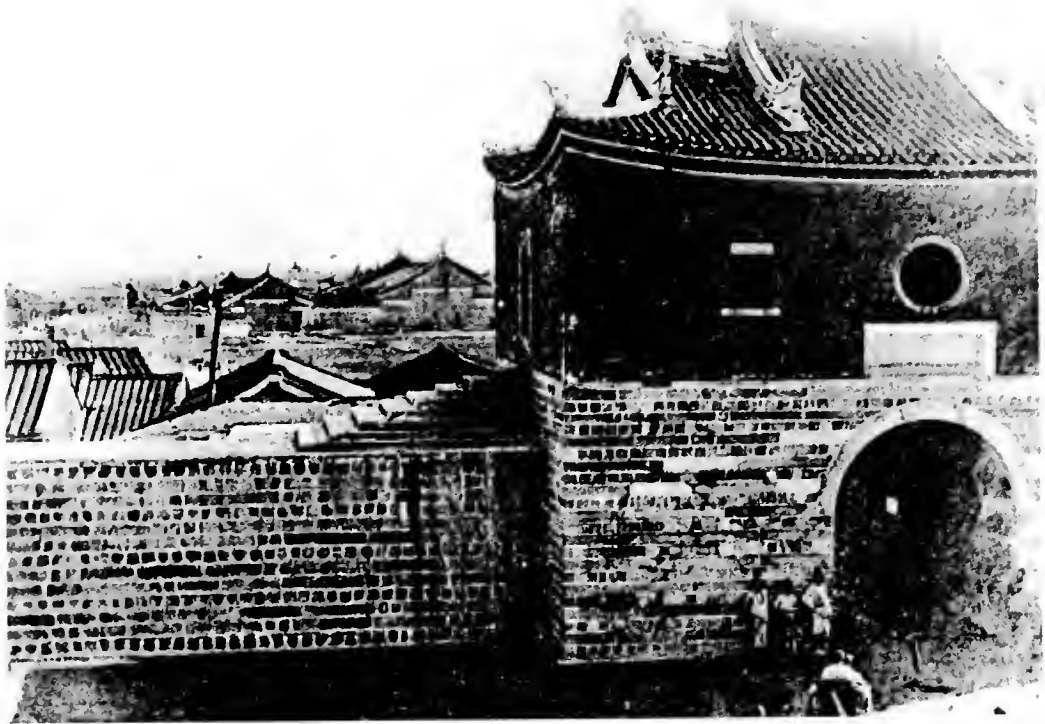


Fig. 1.1 View of Taipei City in Ch'ing Dynasty

Reprinted from Chang-Pong Chung, *The Journey of the Old Taipei City*

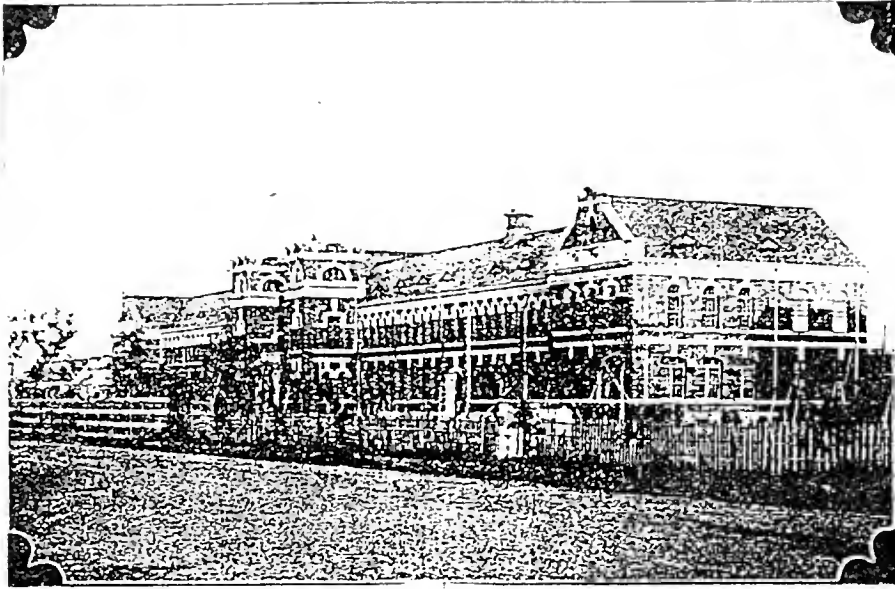


Fig. 1.2 Newly built Chien-Kao High School Circa 1911

Reprint from Kaleidoscope of Taiwan (1912)



Fig. 1.3 Traditional Chinese School of Taipei City, Circa 1885

Reprint from Chang-Pong Chung, *The Journey of the Old Taipei City*

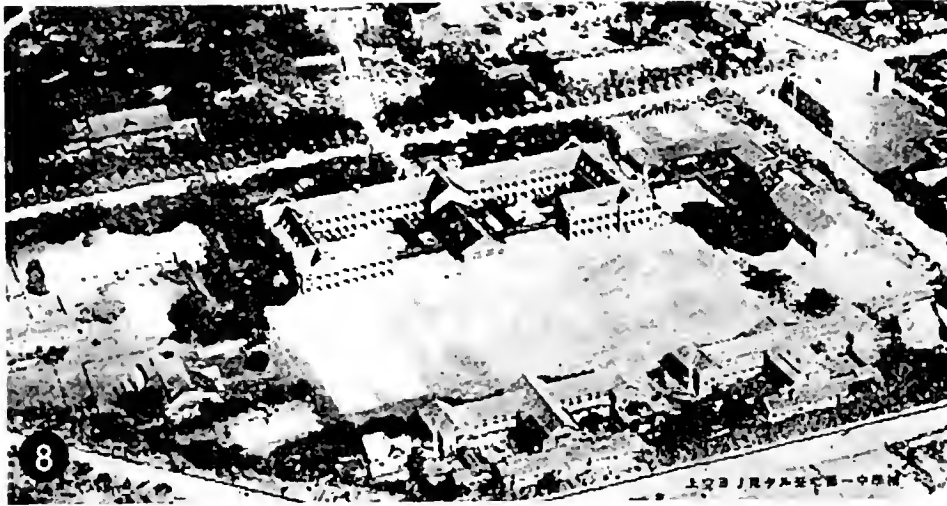


Fig. 1.4 Bird View of Chien-Kao High School in Early Japan Era

Reprint from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)

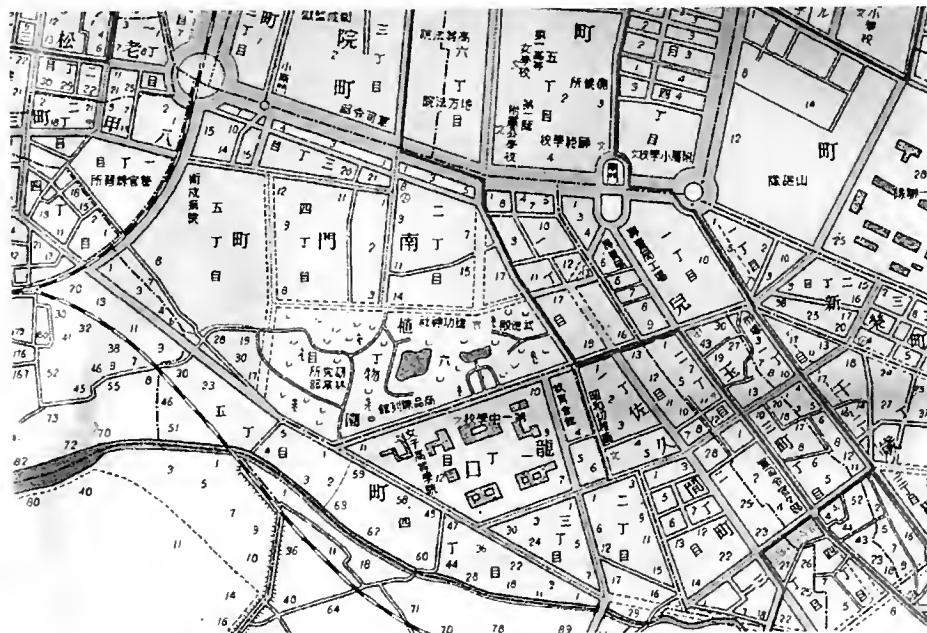


Fig. 1.5 1930s Taipei City Map: Chien-Kao High School (then Taipei First Middle school) is in middle bottom of the map, south of “South City Gate”

Reprinted from Chen, Chung-Shang, *Taipei City Record* (Taipei: Nan-Tian Publish, 1986)



Fig. 1.6 Twin Towers of Eton College and those of Chien-Kao High School

Upper: Reprinted from Japanese Alumni Association, *Evolution of Taiwan Taipei First Middle School*

Lower: Photograph by the author



Fig. 1.7 Lecture Hall

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.8 Student Dormitory

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.9 Principal's Residence

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.10 Martial Art Gym

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.11 Military Training in Wartime

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)

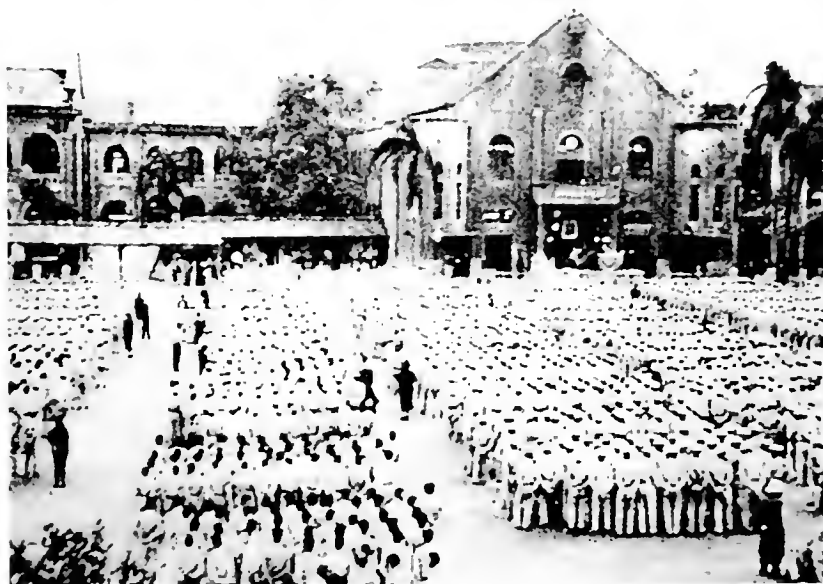


Fig. 1.12 Dirt Color Uniform in Post-Japan Era:
Legacy of Japanese Military Regime

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.13 First Modernism Building in Campus

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary*
(Taipei, Chien-Kao High School Press, 1998)



Fig. 1.14 Chen-Chin Hall

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary*
(Taipei, Chien-Kao High School Press, 1998)



Fig. 1.15 Ming-Dow Hall

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.16 Gi-Ge Hall

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.17 Gen-Yi Hall

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary*
(Taipei, Chien-Kao High School Press, 1998)



Fig 1.18 Chung-Chin Hall

Photograph by the author



Fig 1.19 Scientific Hall

Photograph by the author



Fig. 1.20 Gi-Chung Hall

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998).



Fig. 1.21 New Gym

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.22 Resource Building

Photograph by the author



Fig. 1.23 Sport field now and then (top: past, bottom: present)

Reprinted from Tai-Sheng Chou, Ed. *Chien-Kao High School Centenary* (Taipei, Chien-Kao High School Press, 1998)



Fig. 1.24 Boundary Wall Now and Then (top: old wall, bottom: new wall)

Photograph by the author



Fig. 1.25 Newly Install Handicapped Ramp

Photograph by the author

Reconstructing Red Hall

Red Hall was not built in a day. In 1909, when the Taiwan Government-General Middle School was relocated to today's campus, only the east wing and central part of the front section were erected.²³ The west wing was later completed sometime before 1912.²⁴ Red Hall's floor plan was a symmetrical "I" shape at that time, but the construction of Red Hall didn't stop there. A photo taken by an American teacher who traveled to Taiwan in 1927 clearly shows that Red Hall then had a symmetrical "E" shaped plan.²⁵ This is the image of Red Hall which is most familiar in the alumni's memories. The central extension in the E-shaped layout was a one-story gable roof brick building that functioned as a gathering space. It was not until 1938 that a two-story Lecture Hall replaced this building.²⁶ It is believed that the mirror-image appendages on the eastern and western ends of Red Hall, and the central one-story extension were all built around 1918.²⁷ The west wing of the Red Hall building complex was bombed during World War II. When the Chinese Nationalist government regained Taiwan in 1945, only the central section and the east wing of Red Hall, along with the Lecture Hall, survived. The front section of the west wing was rebuilt in 1950. In 1955, the rest of the razed west wing was also rebuilt. A new segment containing a three-arch bay and a single-arch bay was also added to extend the existing rear section of the east wing. The J-shaped east wing,

²³ "Picture of Newly Built Red Hall", *Taiwan Daily News* (Japanese version), April 11, 1909. This picture shows that the west wing of Red Hall was not finished yet; "Inaugural Ceremony of Colonial Government Middle School", *Taiwan Daily News* (Japanese version), April 13, 1909; "Relocation of Colonial Government Middle School", *Taiwan Daily News* (Chinese Version), April 10, 1909. This article describes the unfinished condition of Chien-Kao High School (then the Colonial Government Middle School).

²⁴ *Kaleidoscope of Taiwan* (Taiwan: 1912).

²⁵ Harold Foght and Alice Foght, *Unfathomed Japan* (New York: The Macmillan Company, 1928) p. 349.

²⁶ See Fon-Long Chang "The Brief History of Chien-Kao High School", *Chien-Kao High School Centenary*, Tai-Sheng Chou, Ed. (Taipei, Chien-Kao High School Press, 1998) p.24; remember, though, that the Lecture Hall is not within the scope of this study.

²⁷ *The Evolution of Taiwan, Taipei First High School* (Tokyo: Japanese Alumni Association, 1985) p.20

including the corner pediment at the eastern end of the front section, was torn down and replaced by a four-story modern classroom building in 1968. The L-shaped west wing and the pediment at the western end of the front section, along with the Lecture Hall, were also torn down and replaced by two other modern buildings in 1975. (Fig. 1.26) In the year 2000, only a segment of the front section of Red Hall survives. Of that surviving section, about four-fifths of the surviving Red Hall is the original structure built in 1909.²⁸

In the ninety-one year history of Red Hall, it had an I-shaped plan for the first ten years or so, then an E-shaped plan for nearly fifty years, except for a ten- year period with an F-shaped plan due to destruction during the war. In late 1960s, new construction returned Red Hall to an F-shaped plan, and it has had an I-shaped plan for the last quarter of the twentieth century.

Since the 1960s, modern classroom buildings have gradually taken over the function of Red Hall. Since 1975, Red Hall has not been the main classroom building on campus. The growth and decline of Red Hall has been like the life cycle of a human being. There is no doubt that Red Hall's golden ages occurred during its forty years in the E-shaped plan. This is why this study focuses on that period of Red Hall's long history.

My attempt to recover a copy of the original construction documents of Red Hall or of its 1950s restoration failed. Chien-Kao High School has not preserved any architectural drawings of Red Hall.²⁹ The Japan Colonial Government-General Archives and the Japan Colonial Government-General Construction Department, where the

²⁸ The description of post-war development of Red Hall is based on photo evidence from the *Chien-Kao High School Graduation Memorial Book* published every year.

²⁹ This is the claim of the administration staff in Chien-Kao High School, although I still have some doubts.

original drawings might have been stored, were both severely bombed during World War II. The author, with professional assistance, found no evidence to suggest the survival of any original construction document, or, if one might exist, which government institution might house it³⁰.

Because no architectural drawing of Red Hall has been found, site survey³¹ and historic photos play extremely important roles in my reconstruction of Red Hall. The existing segment of Red Hall has been documented as AutoCAD drawings, including plans, elevations and architectural details, all based on site survey. (Fig. 1.27a, Fig1.27b) At the center of today's Red Hall, two identical bell towers flank the sides of the entrance porch and central portico, which is the main entrance of Red Hall. The porch is 10.8 m wide and 3.2 m deep. There is a balcony on top of the entrance porch. Both towers are three stories high and 5.1m square. The south sides of the towers are solid walls that merge into the main structure of Red Hall. Each of the other tower walls has a lunette window on the third floor, a segmental arch window on the second floor, and two slender segmental arch windows on the first floor.

From the entrance porch one enters the main lobby. It is a 10.9 m square room, decorated with elaborate ceiling molding and marble veneer. The double staircases and the south arcade connect to the arcade at the rear of the main lobby (Fig. 1.28). One abnormality has been found in the central section of Red Hall. Two rooms behind the central twin bell towers are not precisely symmetric in their dimensions, differing by about 40cm. It is not uncommon in classical revival buildings for the visual context and

³⁰ Tzu-Heng Chiu, a Librarian and PH.D candidate in Library Science at National Taiwan University, conducted this search for me.

actual dimensions to differ. However, in this case the difference in dimensions does not seem to be based on any practical necessity. Since the central section of Red Hall is believed to be part of the earliest original structure, this abnormality might be either the result of a construction mistake, or perhaps at one time it did relate to some unknown function. This question will probably not be solved without the discovery of the original construction documents.

The author's drawings of the remaining east and west wings reveal the relationships among architectural motifs, structure and space in Red Hall. Except for the bell towers, all other parts of Red Hall are two stories high with a raised first floor. The height from grade to the first floor ranges from 60 to 90 cm, and the height from the first to second floor is 4.62 m. The height from the second floor to the bottom of the eave is also about 4.62 m. The eave extends out around the building for 60cm, with a gutter embedded on top. There are a total of five bays on each existing wing. The central bay is substantially narrower while the four other bays are wider. On the north elevation, the wider bays have three segmental arch windows on the first floor and five slender arch windows on the second floor, while the narrower bay has a round arch on the first floor and a slender arch window on the second floor. All windows have a keystone motif. False stone string courses run across the first floor windowsills, second floor slab, second floor windowsills, and second floor window arches. On the south elevation, the wider bays have three arches, and the narrower bay has one arch, on both first and second floors. False stone string courses run along the first floor round arches, second floor slab, second floor handrails, and second floor round arches.

³¹ I have conducted these site surveys by myself. First survey was during the first week of January 2000.

The red brick pilasters projecting out of the exterior surface mark where an inside transverse wall divides the interior space. The width of these pilasters is 50 cm, as is the thickness of the transverse walls and other parallel walls. An interior room lies behind each bay flanked by two pilasters.

When two rooms are joined together, the wall is punched with arch openings. On the side with the arcade passage, arches are openings in the transverse walls connecting each pilaster with the inner parallel wall. The narrower bay flanked by two wider bays indicates the narrower one has a different circulation function; it is primarily used as a transverse passage. The wider bays, 9.0 m in width, contain three arches on the side with the arcade passage. The narrower bay, 3.6 m in width, contains a single arch. The total depth of Red Hall is 10.90 m. In the wider bay segments it is comprised of the depth of a room (7.2 m), plus the thickness of two walls (10.0 m), plus the width of the arcade passage (2.7 m); and in the narrow bay segment it is simply a 10.9 m deep transverse passage.

One large assumption made in transferring the measurements of the existing segment to the demolished corner chambers and the appendages of both wings is that both existing and demolished segments shared the same spatial order. This assumption is supported by the logic of the building's function and the evidence of historic photos. Historically, the appendages and the corner chambers functioned as classrooms, as did the existing segment of Red Hall³². As Red Hall reflects so much emphasis on rhythm and hierarchy in its exterior motifs, as well as its spatial order, it is hard to imagine any reason why the appendages and corner chambers would have been constructed

Second survey was during the first week of June 2000.

differently. The concept of modularization also complements construction quality control and, moreover, is consistent with the Japanese mentality. The historic photos (Fig. 1.29) provide additional support for this assumption. The arcades of the demolished and existing sections look identical, and the pediments on the original corner chamber and the appendage look identical. Also, the order of the pediments, wider bays and narrower bays on the demolished segment is very similar to that of the existing segment.

The main difference between the front section and the appendages is that the classrooms in the appendages have arcades on both sides, while the front section only has an arcade on the south side. The depth of the appendages is thus assumed to be 13.6 m. This would be the width of two arcades (5.4 m), the thickness of two walls (1.0 m), and the depth of the classroom (7.2 m).

The shape of the column of the rear arcade at the eastern end of the segment of Red Hall that still remains suggests that it was the corner column where the inner arcade turned 90 degrees south. (Fig. 1.30) It is also the inner conjunction point of the front section and the appendage. According to the spatial order of the existing segment, the appendage walls perpendicular to those of the front section should line up with the pilasters of the front section. Therefore, the depth of the classroom plus the width of one arcade passage and the thickness of two walls would equal the width of the pediments of the front section, which is 10.9 m. The same rationale applies to the pediments on all other elevations. Historic photos show that the corner chambers had pediments projecting out from the rest of the section. Therefore, the pediments should be aligned with the arch columns of the inner arcades. A preliminary dimensioned E-shaped plan is thus restored

³² Historic Use of the appendages is learnt from my interviews with alumni.

(with the exception of the central piece, the Lecture Hall, which is not in the scope of this research). (Fig. 1.31a, Fig 1.31b)

Historic photos also provide clues to other architectural features (Fig. 1.32). The locations of the exterior stairs connecting grade and elevated arcade passage, the ventilation opening on the plinth, the shape and detail of the pediments, the parapets, and eave windows are all drawn according to historic photos (Fig. 1.33). Historic photos of different periods also show that, besides the gable roof itself, all the architectural components above the roof were gone after the post-war reconstruction. The roof ridge was lowered and a new tile roof, including eave tiles with a plum blossom relief (Fig. 1.34), was installed³³. Interviews with alumni provided information about the use of interior space and the locations of staircases in the demolished portion of Red Hall. According to the interviews, each wider bay contained a classroom. There were identical windows and doors connecting the arcades on both sides of the classroom. At each corner of the inner arcade, there was a storage space. It had the same depth as the classroom and the same width as the arcade passage. The toilet was not located inside the Red Hall building complex. The staircases were located at the center of the side elevation. It was a space defined by the narrower bay, in which outer and inner arcades connected. These descriptions of the interior space are consistent with the observation of spatial order made in site survey. The chambers on the eastern and western ends of the front section were larger than all other classrooms because there was only one arcade, on the south side of the front section. No one recalls clearly any special use of these two chambers, except the possibility that they might have been music classrooms or auditoriums with riser

³³ The comparison between pre-war roof and post-war roof is based on historic photos and site survey.

seats.

According to site survey and historic photos (Fig. 1.35), the walls of Red Hall were made of red brick; the floor slabs were made of reinforced concrete. The thickness of the remaining concrete floor slab is 20 cm. The only exception is the bridge connecting the double staircases at the rear end of the main lobby with the second floor arcade, which is 45 cm thick. The red bricks are 23 cm long, 11 cm wide, and 6cm high. The total height of six brick courses is about 40 cm. False stones are made of cement. Plinths are also made of brick with a veneer of false stone.

I found a written description for the budget and scope of the work for the new construction of the Chien-Kao High School and Red Hall in the 1909 “Japan Colonial Government-General Yearly Working Report”. Red Hall and the campus were described by traditional Japanese measurements. A Japanese bay measures 1.8 m, a Japanese foot is 30 cm, and a Japanese inch is 3 cm. This document does not reveal anything about Red Hall that has not been previously mentioned. However, when we compare one “Japanese bay”, 1.80 m, with the widths of the arcade (2.70 m), the wider bay (9.0 m), the narrower bay (3.6 m), and the depth of the classroom (7.2 m). It is clear that up to 1909 the Japanese still used their traditional measurements to design “western style” public buildings like Red Hall.

Though the combination of reinforced concrete slab and brick load-bearing wall was a construction method introduced from Japan, it was not indigenous to Japan either. It is one of many things the Japanese adopted from the West during the Meiji Restoration. The British architect Joseph Conder, the founder of modern profession of Japanese

architecture, was one of the advocates of this construction method³⁴. Up until the late 1950s, this construction method was still popular for residential buildings in Taiwan. (Fig. 1.36)

The exterior views of the pre-war Red Hall and the post-war restored portion of Red hall are similar. (Fig 1.37) The differences lay in only two aspects, the shape of the roof, which has been described earlier in this section, and the shape of the masonry openings, including doors and windows on the brick walls between the arcades and classrooms. (Fig 1.38) In what remains today of Red Hall, the post-war restored masonry openings are all rectangular, while the pre-war ones all have segmental arches. Further comparison of the woodwork on the rectangular masonry openings with that on the segmental arch openings shows their details and profiles are identical. The remaining segments of the restoration work done in the 1950s suggest that the local craftsmen had a great understanding of a building like Red Hall, ranging from construction method to the very finest architectural details.

One question arises from the appreciation of the local craftsmen's skill in restoring Red Hall. Why was the roof reconstructed differently? Economic hardship could be one reason, but it is definitely not the only one. If the budget had been the only consideration, none of the architectural motifs that match the original ones would have been built, because they all required labor and money. My hypothesis is that the new shape of the roof was related to the theory of the sub-conscious in East Asian Confucian states³⁵. According to Confucius, a world in harmony is the highest virtue, and the way to

³⁴ Kenneth Frampton and Kunio Kudo, *Japanese Building Practice: From Ancient Times to the Meiji Period* (New York: Van Reinhold, 1997)p.92-93

³⁵ China, Japan, Korea, Vietnam were all Confucianism.

achieve this virtue is to make sure every person lives within a clear social order. Society needs a physical system to represent the social ranking of objects, including buildings, so that people know whether they are in the right place for their rank. Thus the ruler has the obligation and authority to set up rules of construction which define the hierarchy of buildings. These rules include many construction details, but the most visible one is the shape of the roof. (Fig 1.39)

When a new regime overwhelmed the old one, the rules of construction were altered to mark the change in the socio-political hierarchy. Thus, the new roof of Red Hall is exactly consistent with this thousand-year-old ideology in East Asian Confucian countries. In effect, the Chinese Nationalists were saying, “Taiwan is under our rule now.” This hypothesis is supported by the fact that almost all the roofs of historic public buildings in Taiwan have been replaced with new ones of different shapes since the arrival of the Chinese Nationalist Party after World War II. These new roofs not only applied to public buildings from Japanese colonial period, but also to those from the Ch’ing dynasty period. (Fig 1.40) An interesting comparison could be made to the emphasis on exaggerated roof design on public buildings in Japan when the architectural enthusiasm of Meiji restoration turned to building a strong image of imperial identity. (Fig. 1.41)

The architecture of Red Hall was not indigenous to Taiwan by any means. The construction method, architectural motifs, the floor plan and the function of space had never been seen before. Where did the inspiration for this design come from? A historic photo shows an arcade on the Student Hall of the Naval Academy in Hiroshima, Japan, (Fig. 1.42) which is similar to that of Red Hall. It was designed by British architect J.

Diack and built in 1893³⁶. According to a publication³⁷ of Japanese Chien-Kao High School alumni, the twin tower entrance gate of Eton College in Britain inspired the twin towers at the main entrance of Red Hall. However, these scattered cases alone don't explain the strong British accent in the total design of Red Hall.

The answer seems to lie in the designer's professional lineage. Kondo Juro³⁸, the Japanese architect who designed Red Hall, was a graduate of the Tokyo University Architecture department in 1904. Tatsuno Kingo³⁹ was the founder and then the head of that architecture department. Tatsuno, who first studied under British architect Josiah Condor and later studied in Britain, is generally considered one of the first generation of Japanese architects. Condor, the founder of Japan's architecture profession, was educated at the South Kensington Art School and London University, and he practiced in the office of Roger Smith and William Burges in London before moving to Japan⁴⁰. He developed in a professional environment where Victorian architecture was in its full bloom. Among the famous Victorian architects, William Butterfield was the master of brick architecture.

A comparison of the projects of the architects of these four different generations shows a cohesive trend in architectural design. The bay pattern of Red Hall is similar to Condor's Ministry of the Navy (Fig. 1.43) and also his Imperial Museum. (Fig. 1.44) String courses on a brick exterior are found on Kondo's Red Hall, on Tatsuno's Tokyo Fire Insurance Company (Fig.1.45), and on Condor's Ministry of the Navy, as well as on

³⁶ Shoji Takashima and al., *Fine Arts of Modern Japan IV - Architecture and Design* (Tokyo: Kodansha, 1990) p. 197, p.261

³⁷ A photo of Eton College twin towers entrance gate is on the cover page of *The Evolution of Taiwan, Taipei First High School* (Tokyo: Japanese Alumni Association, 1985)

³⁸ Chien-Lang Lee, *Modern Buildings in Taiwan: 1860-1965* (Taipei: 1980) p.176

³⁹ Kenneth Frampton and Kunio Kudo, *Japanese Building Practice: From Ancient Times to the Meiji Period* (New York: Van Reinhold, 1997)p.91

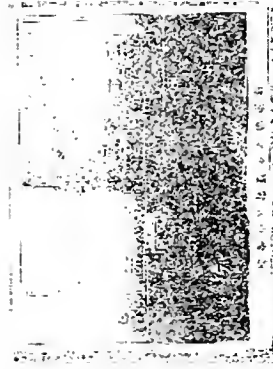
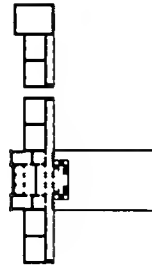
⁴⁰ *ibid.*

Butterfield's St. Alban Church. (Fig.1.46) Brick pillars can also be found both in Red Hall and Butterfield's St. Alban Church. Even the decorative motif on Red Hall's pediment can find its counterpart on the pediment of E.W. Mountford's Northampton Institution in Britain (Fig.1.47). Other projects of Kondo in Taiwan have similar accents to those of Red Hall. (Fig. 1.48)

Within sixty years, western architectural form had become native Japanese architectural form, and the Japanese were able to export this architectural idea to the nearby countries under its influence. Within another forty years, the Taiwanese had learned to reconstruct Red Hall to a very high standard without instruction from the Japanese. And Finally in the year 2000, the design logic of Red Hall has been decoded and documented. The spread of western architecture is a microcosm which reflects the process of modernization of Taiwan.

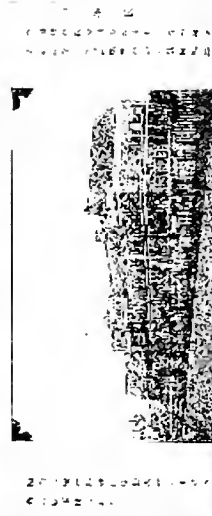
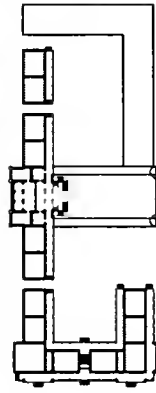
Fig. 1.26 Chronicle of Red Hall
(Drawing by the Author)

1909

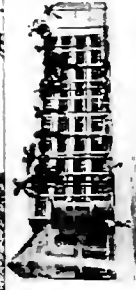


"Picture of newly built Red Hall",
Taiwan Daily News (Japanese version),
April 11, 1909.

1968



Kaleidoscope of Taiwan



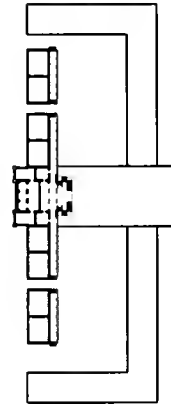
*High School
Graduation
Memorial Book*



*1971 Chien-Kao
High School
Graduation
Memorial Book*



1975



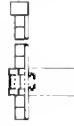
*1975 Chien-Kao
High School
Graduation
Memorial Book*



Fig. 1.26 Chronicle of Red Hall

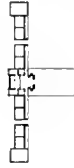
(Drawing by the Author)

1909



"Picture of newly built Red Hall".
Taiwan Path News (Japanese version),
April 11, 1909

1912



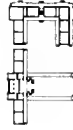
Kaleidoscope of Taiwan
Taiwan 1912)

1918



Harold Fought and Alice Fought,
Unconquered Japan(New York: The
Macmillan Company, 1928)p.349

1945



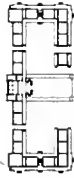
Chen-Lang Lee, *Modern
Buildings in Taiwan*
(800-1965) (Taipei: 1980)
p.43

1950



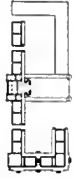
1950 Chien-Kao High School
Graduation Memorial Book

1960



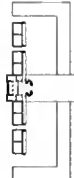
1955 Chien-Kao High School
Graduation Memorial Book

1968



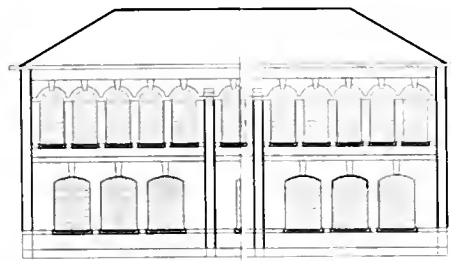
1968 Chien-Kao
High School
Graduation
Memorial Book

1975

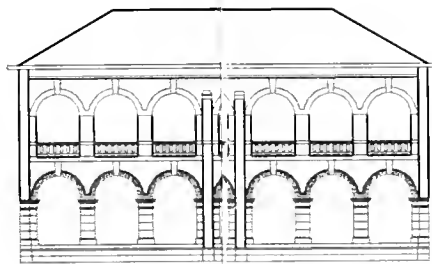


1971 Chien-Kao
High School
Graduation
Memorial Book

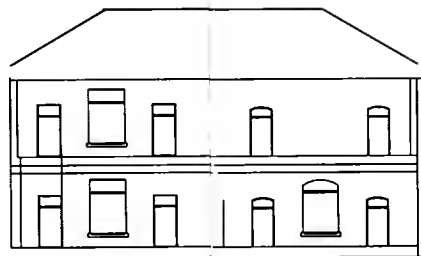
1975 Chien-Kao
High School
Graduation
Memorial Book



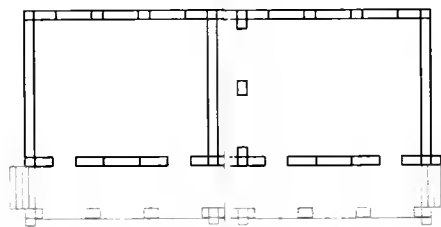
North Elevation



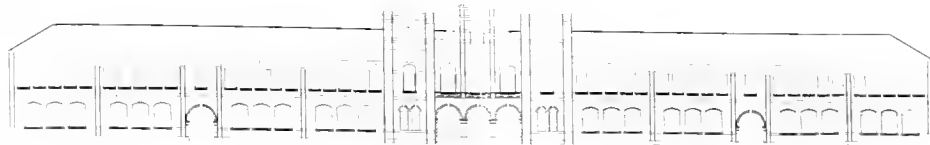
South Elevation



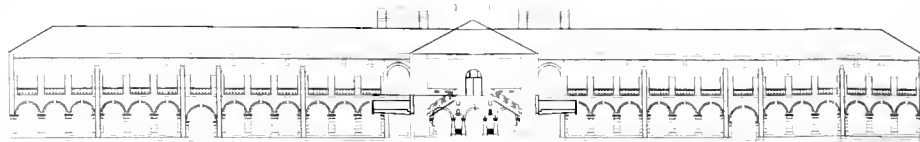
Rear Wall Opening



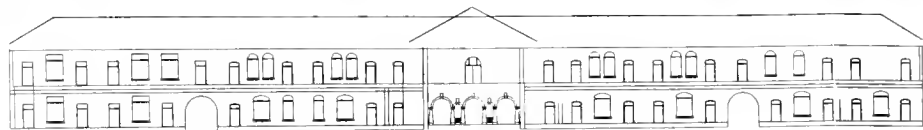
First Floor Plan of High School in 2000



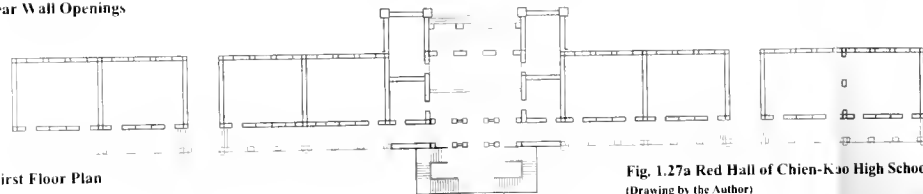
North Elevation



South Elevation



Rear Wall Openings

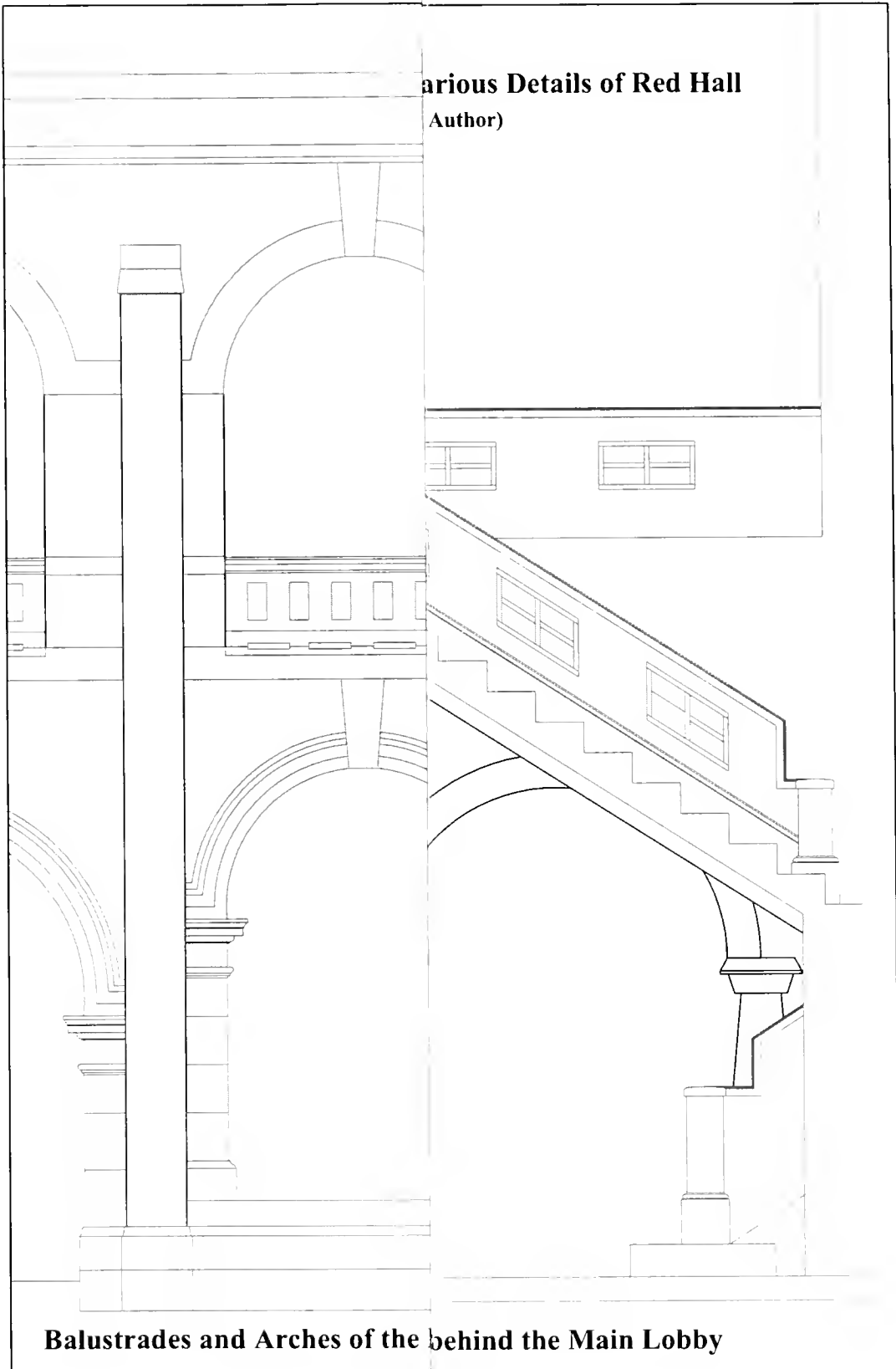


First Floor Plan

Fig. 1.27a Red Hall of Chien-Kao High School in 2000
(Drawing by the Author)

Various Details of Red Hall

(Author)



Balustrades and Arches of the behind the Main Lobby

Fig. 1.27b Various Details of Red Hall
(Drawing by the Author)

Balustrades and Arches of the Rear Elevation

Balustrades and Arch of the Central Pediment

Stairway behind the Main Lobby



Fig. 1.28 Front and Rear End of Red Hall Main Lobby

Photographs by the Author



Fig. 1.29 South view of Red Hall West Appendage

Reprinted from 1968 Chien-Kao High School Graduation Memorial Book



Fig. 1.30 Remaining Corner Column of Red Hall

Photographs by the Author

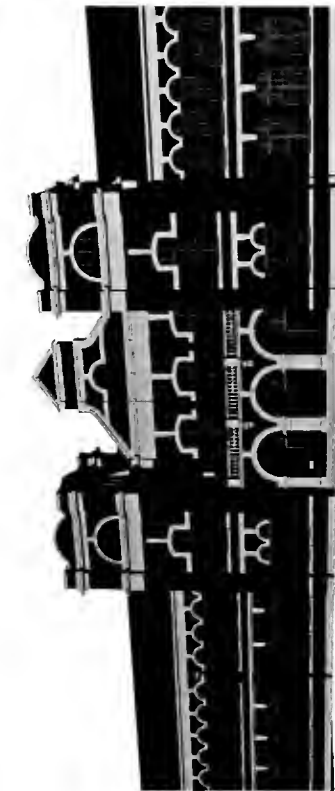


Fig. 1.31a Red Hall in 1950s 3D Computer Rendering

3D Rendering by the Author

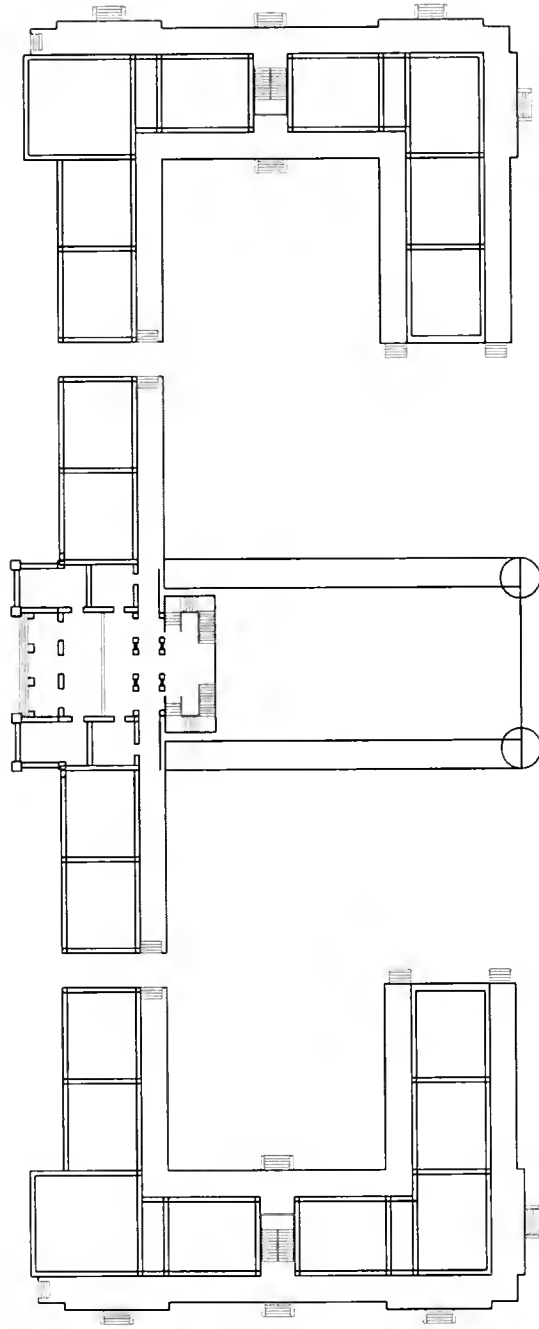
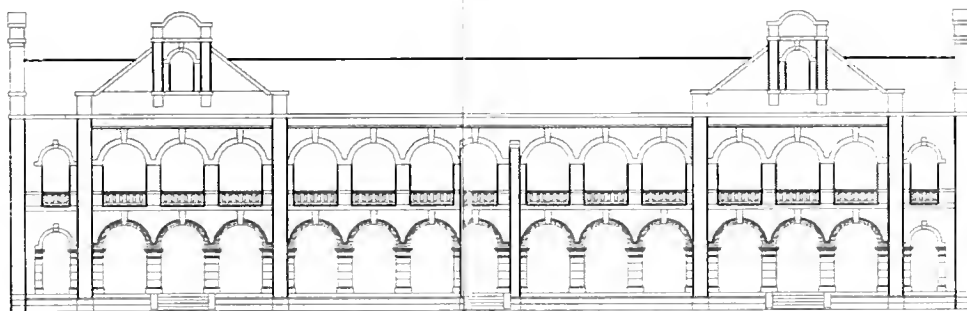
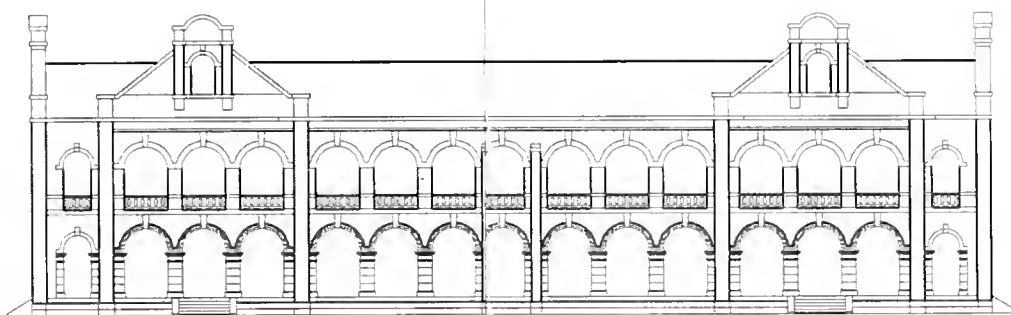
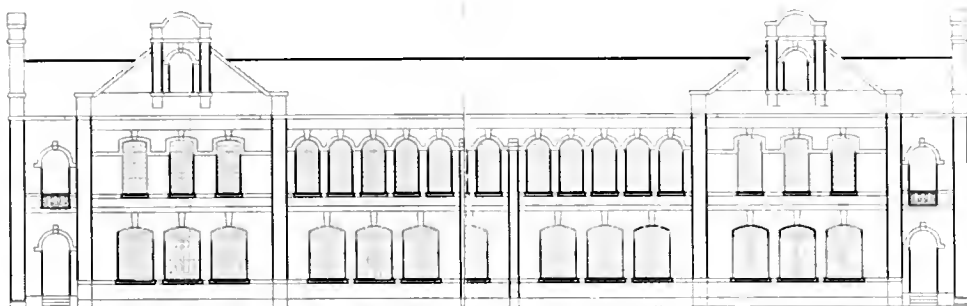


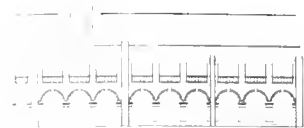
Fig 1.31b First Floor Plan of Red Hall in 1950s
(Drawing by the Author)



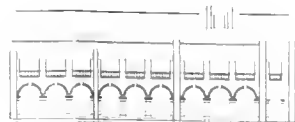
West Elevation East Elevation



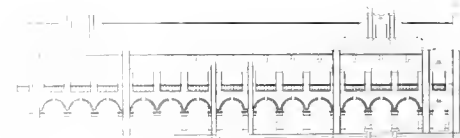
North Elevation



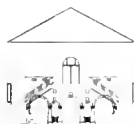
South Elevation



East Elevation

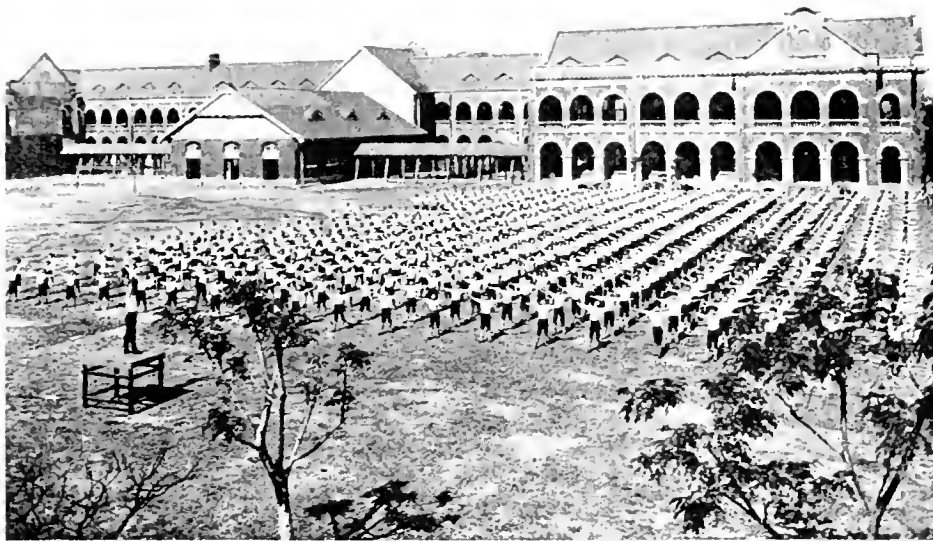


West Elevation



Section through Stairways

Fig 1.31c Elevations of Red Hall in 1950s
(Drawing by the Author)



Outdoor Gymnastics in a Boys' School, Taihoku, Taiwan



Fig. 1.32 Roof of Red Hall during Japanese Regime

Upper: Reprinted from Harold Foght and Alice Foght, *Unfathomed Japan* (New York: Macmillan Company, 1928) p 349

Lower: Reprint from Chien-Lang Lee, *Modern Buildings in Taiwan: 1860-1965* (Taipei: 1980) p 43



Fig. 1.33 Foundation Plinth of Red Hall

Reprinted from 1960 Chien-Kao High School Graduation Memorial Book



Fig. 1.34 Eave Tiles of Red Hall Decorated with Plum Blossom Relief

Photograph by the Author



Fig. 1.35 Red Hall in Demolition

Reprinted from 1972 Chien-Kao High School Graduation Memorial Book



Fig. 1.36 Taipei Kwei-Yang Street Row Houses Built in 1960s

Photograph by the Author



Fig. 1.37 Red Hall Front Elevation in 1970

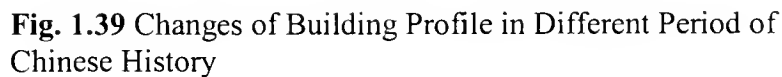
Reprinted from 1971 Chien-Kao High School Graduation Memorial Book



Fig. 1.38 Original Arched Door (Left) and 1950 Rebuilt Rectangular Door (Right) of Red Hall

Photograph by the Author

EVOLUTION OF THE GENERAL APPEARANCE OF TIMBER-FRAMED HALLS



54

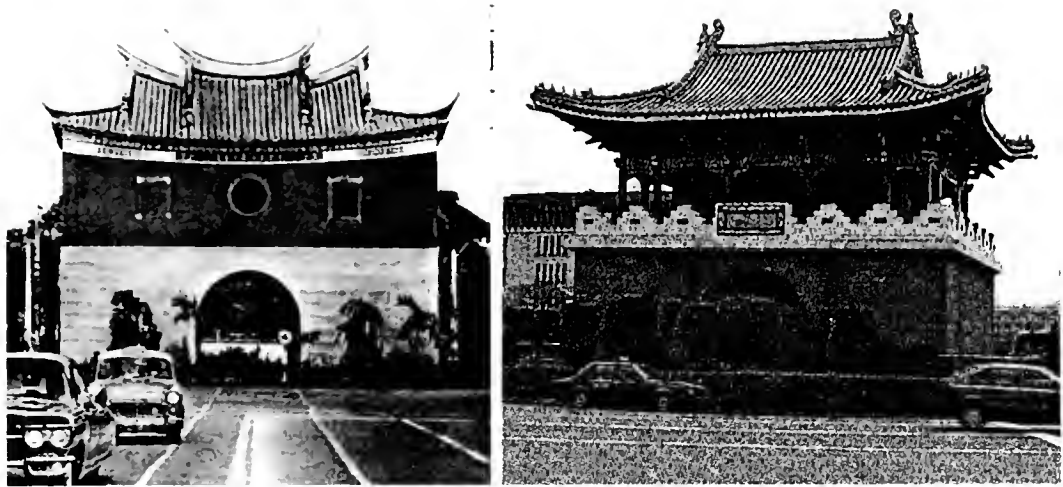


Fig. 1.40 Taipei City East Gate built in Ch'ing Dynasty. Left: original; Right: After 1966 Conversion

Reprinted from Chang-Pong Chung, *Journey of the Old Taipei City* (Taipei: Yuan-Liu Press, 1992) p 104,105

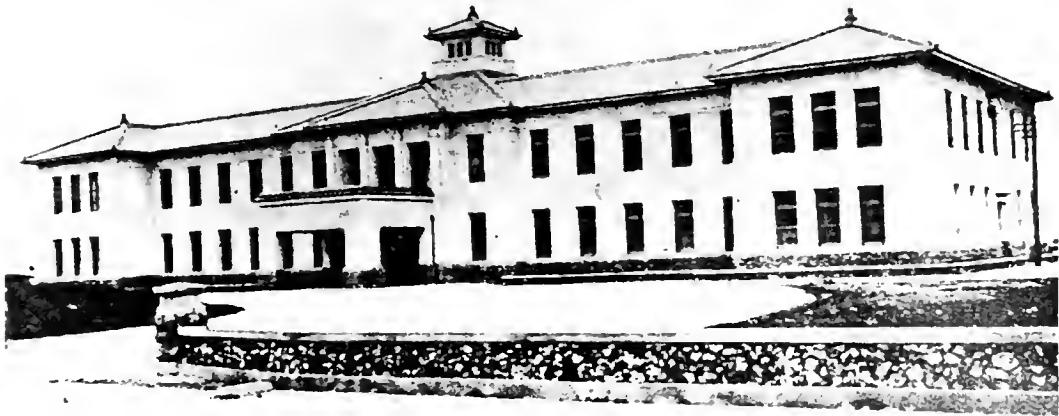


Fig. 1.41 Pen-Hu County Government Hall, a Building with Traditional Roof Crown on Top of Modern Concrete Block

Reprinted from Chien-Lang Lee, *Modern Buildings in Taiwan: 1860-1965* (Taipei: 1980) p 165



Fig. 1.42 Naval Academy in Hiroshima, Japan, Completed in 1893

Reprinted from Shoji Takashima and al., *Fine Arts of Modern Japan IV - Architecture and Design* (Tokyo: Kodansha, 1990) p 1

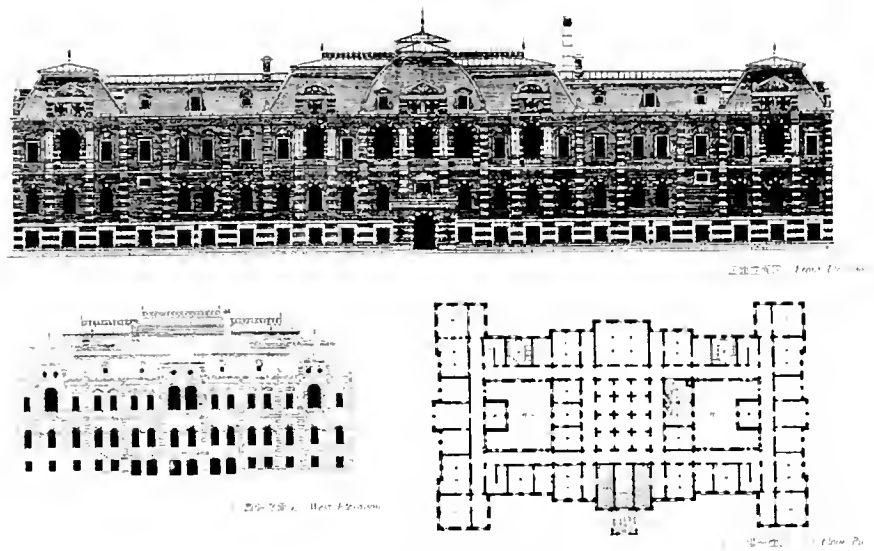


Fig. 1.43 Ministry of the Naval, Tokyo, Japan, Completed in 1894

Reprinted from Hiroyuki Suzuki and Tohru Hatsuda, *Urban Architecture in Meiji: A Visual Anthology* (Tokyo: 1990) p 17

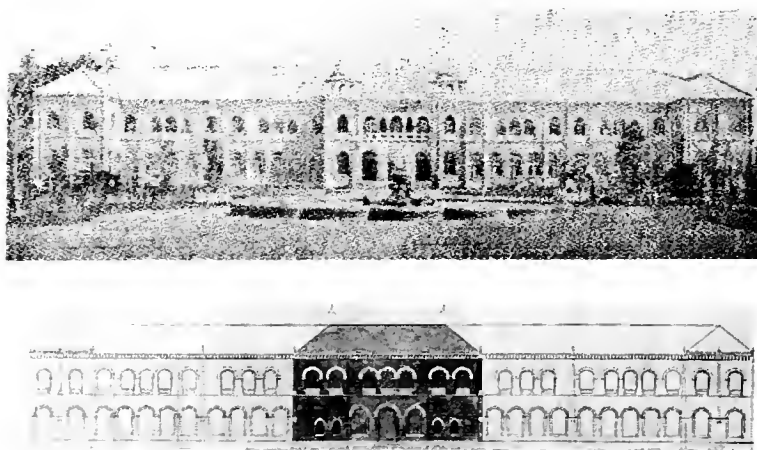


Fig. 1.44 Imperial Museum, Tokyo, Japan, Completed in 1881

Reprinted from Hiroyuki Suzuki and Tohru Hatsuda, *Urban Architecture in Meiji: A Visual Anthology* (Tokyo: 1990) p 176

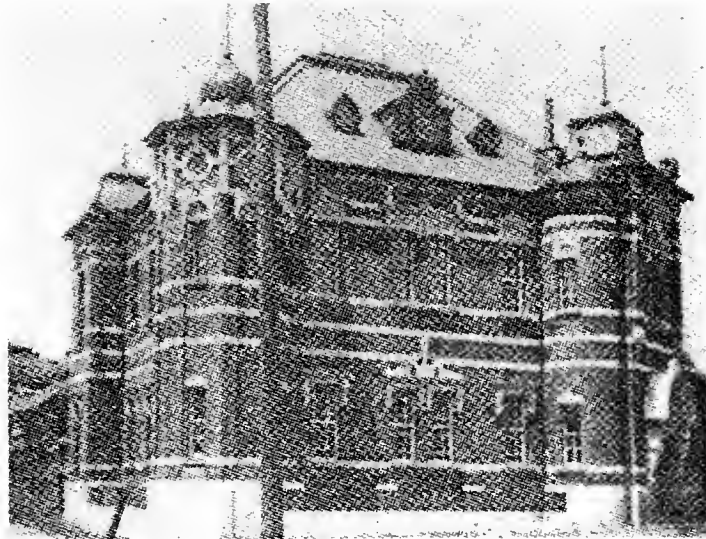


Fig. 1.45 Imperial Oversea-Transport and Fire-Insurance Company, Tokyo, Japan, Completed in 1908

Reprinted from Hiroyuki Suzuki and Tohru Hatsuda, *Urban Architecture in Meiji: A Visual Anthology* (Tokyo: 1990) p 96



Fig. 1.46 St Alban's Church, Holborn, London, Britain, Completed in 1863

Reprinted from Thompson, Paul, *William Butterfield* (London: Routledge & Kegan Paul Ltd., 1971) p 285, p 157



Fig. 1.47 Northampton Institute, Islington, London, Britain,
Completed in 1893

Reprinted from Sir John Newenham Summerson, *The Architecture of Victorian London* (Charlottesville, VA: University Press of Virginia, 1976)
P 103



Fig. 1.48 Marketplace in West Gate District, Taipei, Taiwan,
Completed in 1908, Another Project of Kondo Juro

Reprinted from Chien-Lang Lee, *Modern Buildings in Taiwan: 1860-1965*
(Taipei: 1980) p 59

The Significance of Red Hall

Red Hall is significant in three ways⁴¹. First, it is associated with the beginning of the modern (western) educational system in Taiwan. Second, it is a prototypical building of today's educational facilities in Taiwan. Third, it provides evidence of the localization of modern construction methods.

When Chien-Kao High School was established in 1898, it was the first government-operated educational institution in Taiwan that followed the nineteenth century's modernization movements in East Asia. The traditional Chinese educational system under the Ch'ing Dynasty had become obsolete and it was replaced by the modernized Japanese educational system, consisting of kindergarten, primary school, high school, college, and graduate school, with curricula similar to those of today.

Chien-Kao High School was not originally for Taiwanese students, it was built for the education of the children of the Japanese ruling class. However, the Japanese ruling class soon realized the need for skilled local laborers to exploit the resources of Taiwan. Modern education for Taiwanese students was then spread to every corner of Taiwan. The campus layout of Chien-Kao High School was copied in many of these new public schools.⁴² In 1939, about 75 % of the Taiwanese children in Taipei went to primary school.⁴³

The Chinese government adopted the modern educational system after the 1912

⁴¹ U.S. Department of Interior, National Park Service, "The National Register Criteria," *Register Bulletin: How to Complete the National Register Registration Form* (Washington D.C.: 1997) p.37 provides a vital reference for organizing the historic values of Red Hall.

⁴² Chien-Lang Lee, "Map: Japan's City Correction Urban Planning in Da-Dau-Chen District of Taipei," *Modern Buildings in Taiwan: 1860-1965* (Taipei: 1980) p.112; Note the footprint of the public school in the lower right corner of the map.

⁴³ See Ian-Chiu Hung, Ed. *Taipei City History: Chapter of Education* (Taipei: Taipei City Government Publishing, 1962) p.59-60.

revolution. China took over Taiwan after World War II. Since the educational systems of both countries were similar, the transition was smooth in that respect. The main problem was that it took a few years to convert the official language from Japanese back to Mandarin Chinese again. For the past 92 years, Red Hall has been the heart of this educational institution. It is also the only original building remaining on the Chien-Kao High School campus today. It is an important historical monument marking the new era of education in Taiwan, which replaced the traditional East Asian system that had endured a thousand years.

Red Hall was the first classroom building in Taiwan designed for the educational purposes of the modern era. The idea of its symmetrical E-shaped plan was rather common in western architecture of that time, but it was a brand-new experience for Taiwan. Red Hall has many western-inspired architectural characteristics, such as the twin bell towers, buttress-like pillars, pediments, pitched roof, arcade, arch windows, stone veneer plinth, and string courses on a red brick exterior.

The symmetric floor plan has a strong sense of a central axis. This reflects the influence of the nineteenth century Beaux Arts School design philosophy, while the pillars, string courses on brick, and huge masonry openings also reflect the influence of architectural trends in nineteenth century Victorian Britain.

In appearance, Red Hall is very similar to the Tatsuno style in Japan, but it also has several distinctive features adapted to the tropical climate of Taiwan. Red Hall doesn't have a basement, but the first floor was raised about 60 to 90 cm above grade and supported by the plinth. The rear section of Red Hall has arch openings on the plinth foundation, which provided ventilation beneath the floor to prevent the accumulation of

moisture.

Except for those in the front section, all other rooms in Red Hall were sandwiched between arcades. The function of these arcades was to protect the classroom from direct exposure to rainfall and sunlight, both of which are severe in Taiwan. The roof eave, extending about 60-cm outward, further reduced rainfall coming into the arcades. The gutter, which was part of the eave, collected rainfall coming from the pitched roof and directed it to the downspout. No moisture would accumulate in any part of the building. Staircases were positioned at the central entrance and the center of each side, so the average distance to vertical circulation in each building section was similar. Each section of the roof had eave windows and a cupola. These openings provided a way to dissipate the heat and moisture that accumulated under the roof. The beauty of Red Hall lay in its integration of structure, function and form. The post-war modernist classroom buildings in the campus share Red Hall's circulation and shading patterns, but the architectural devices to naturally dissipate heat and water, especially on the top floor, are largely ignored.

An artifact of the localization of modern construction methods, Red Hall was among the earliest public buildings in Taiwan designed by a Japanese architect. Construction of Red Hall marked the arrival of the reinforced concrete era in Taiwan. While the walls of Red Hall were still made of brick with arched openings, the Japanese architect used reinforced concrete for the floor slabs, and used cement to make false stone architectural details and decorations.

No Taiwanese became known as an architect during Japan's 50-year rule of the island. Thus, Taiwanese appreciation for the western style of architecture can only be

identified through the works of local craftsmen, and in this particular case, the post-war restoration of Red Hall. The decade of the 1950s, when the Red Hall restoration took place, was a time when Taiwanese craftsmen took charge in construction and the idea of modernist architecture had not yet arrived. Taiwanese craftsmen reconstructed the west section of Red Hall, which included part of the front section, pediments, and the west appendage. Taiwanese craftsmen were able to restore Red Hall with a high level of fidelity to its original condition, ranging from construction methods and exterior elevations to details of the woodwork. The only two exceptions are the roof shape and the window openings on the arcade. In the author's judgment, these exceptions were not due to a lack of construction skills on the part of the local craftsmen. This judgment is based on the fact that even the architectural details demanding a higher level of craftsmanship, such as exterior segmental arched windows, were fully replicated, so there should be no reason why the easier ones could not be.

The roof of Red Hall has been simplified by lowering the pitch and adding a new set of roof tiles. The cupolas and eave windows were never reconstructed. These simplifications, as discussed in the previous section, seem to be based on the ideology of East Asian Confucian culture. As in the reconstructed section of Red Hall, the rectangular windows and doors have replaced the segmental arch windows and doors. This is a sign of a transition in preference toward simpler architectural forms after World War II.

The restoration implemented by local craftsmen also reflects another turning point for Taiwanese society. From the 1940s to 1950s, control over Taiwan transferred from the Japanese back to ethnic Chinese. Japanese architects were no longer in charge of construction, which is how the local craftsmen acquired the task of this restoration.

Although techniques of concrete pouring had improved through time, and public buildings constructed in the later phase of Japanese rule were all made of concrete, up until the late 1950s, the brick wall /reinforced concrete slab construction method was still popular for Taiwan's row house residence construction⁴⁴. That is to say, this imported construction method had become fully localized to Taiwanese society by the 1950s.

⁴⁴ Examples of this kind of residence building can be seen in Kwei-Yang Street and other old districts of Taipei.

Chapter Two: Design

Design Philosophy for Future Intervention

Chien-Kao High School campus has accumulated buildings of classical-revival, modernist and post-modernist architectural styles in the past ninety years. It is impossible to create principles for intervention without observing the relationship among the buildings and the logic of campus development in the past.

When the Japanese created Chien-Kao High School, it was well-designed, with a capacity sufficient for its purpose of accommodating the Japanese children. The need for campus development only came after WWII, when Chien-Kao High School became a school for ethnic Chinese children. The first strain on its capacity came with the defeat of the Nationalist Party in mainland China, when two million Nationalist Party loyalists moved to Taiwan, an island six million in population,⁴⁵ in the late 1940s. Many of the newcomers were students. Three measures were taken to handle the explosion of the student population and to house the additional refugee teachers. First, Red Hall and Lecture Hall, which had deteriorated in WWII, were restored. Second, old student dorms and the old gym were rehabbed and converted to classrooms. Third, the martial arts gym was converted into a twenty-six-unit teacher's dorm.⁴⁶ Except for Red Hall and Lecture Hall, the other buildings were all wooden structures, which destined these efforts to a short life span.

⁴⁵ Chung-Shang Chen, *Taipei City Record* (Taipei: Nan-Tian Publishing, 1986) p.12. The population in Taipei was 335,397 in 1945. There were 107,269 Japanese, and only 9,130 Mainland Chinese. The population in Taipei in 1950 was 506,450. There were 166,858 Mainland Chinese and only 104 Japanese. In 1955 the population was already 700,000. The population in Taipei today has exceeded 2 million.

⁴⁶ See Yu Fu, *Thirty Years in Chien-Kao High School* (Taipei: Da-Di Publishing, 1980) p.31-36.

The second phase of post-war development lasted from 1955 until 1975. The challenge was to accommodate yet more students. With the arrival of peace, the population of Taiwan nearly doubled in twenty years.⁴⁷ The number of classes in each grade in Chien-Kao High School expanded from 14 to 35. The number of mass-produced modernist classroom buildings grew rapidly on campus, most of them four-story structures to maximize the use of each footprint. During this period, most original campus buildings were torn down to make way for new constructions. Lecture Hall was gone, and even Red Hall was not completely spared from this wave of destruction. Three quarters of Red Hall, including the rear sections, east wing, and west wing, all disappeared into the mists of history.

The third phase of campus development was triggered by the need to improve the quality of education. The birth rate in Taiwan dropped in this period, and the junior high school department was eliminated in 1968 because of the implementation of nine-year compulsory education. Economic growth allowed more government budget spending for new junior high schools, since a school crowded with students could no longer satisfy the public's expectation for quality education. Since the 1980s, there has not been any construction aiming for new general classroom space in Chien-Kao High School. The New Gym, containing an indoor basketball court, swimming pool, and other sports facilities; the Resource Building, containing a new library, computer classrooms, and a state-of-the-art conference facility; and the renovation of the sports field were all intended to raise the quality of education. In the late 1990s, air conditioning was installed

⁴⁷ The 1956 census reported the population of Taiwan was 9,368,000. The 1976 census reported the

in all classrooms. The solid campus boundary wall built in the 1960s was replaced by steel grates, which only symbolically partition the campus from its neighborhood. Handicapped ramps were added to all buildings. The values of quality education today seem to be looking beyond skill-oriented goals to a deeper sense of freedom, human dignity and social equality.

It frequently occurs that when a new design is created, it includes many elements of the original it replaces. Red Hall, partially destroyed in the wave of new construction, triumphed in influencing the design the new modernist classroom buildings in many ways. In a sense, they are a new generation which follows Red Hall's design logic. The foremost legacy of Red Hall is the symmetrical nature of the complex of classroom buildings. The entrance between the twin bell towers of Red Hall defines the central axis not only of Red Hall itself, but also of all the classroom buildings. It also bisects the sports field. The new classroom buildings surround the sports field in a "C" shape. The footprint of this new complex of classroom buildings adjacent to Red Hall is like an enlarged footprint of Red Hall itself. Besides, the circulation pattern of Red Hall has been copied and reassembled. A shaded walkway connects all classrooms on the same floor; the staircases are placed in each corner of the buildings; and the bathrooms, once outside Red Hall but now a part of the new structures, are still separated from the classrooms by these staircases. This new variation resembles the early pattern, based on ideas of hygienic practices, of keeping the bathroom apart from the classrooms (Fig. 2.1).

In the early years of the Japanese modernization movement, a form of residence that combined Western and Japanese styles was popular among wealthy Japanese officers. In this kind of residence, the front portion of the house is a western classical revival style. It is used as a social space for formal occasions, when people tend to dress up and interact stiffly. The rear portion is Japanese tatami space. People take off their shoes, relax, and dress casually to enjoy the privacy of family life.⁴⁸

This spatial relationship between formality and informality can also be seen to characterize the Chien-Kao High School campus. The symmetric classroom complex dominates the front portion of the campus, while the rear portion is scattered with the gym, workshop, and library-resource buildings. During the Japanese regime, formality and informality on the campus were also represented by Western style and Japanese style architectures, respectively. Today, only through comparison of the campus buildings' functions can we rediscover this relationship. (Fig 2.2)

The sports field, which has been recently converted from sand ground to grass field, plays a strategic role in coordinating formal and informal spaces on campus. For the classroom buildings, the sports field is a plaza that accommodates the symmetrical nature of the new classroom buildings. For the buildings in the rear, which all face some part of the sports field, it is a common space that includes them into the whole. Some historic activities have also taken place on the sports field. The goal gates for rugby that stand on the sports field, though they are not the original ones, have a special meaning because

⁴⁸ See the discussion about the residences of earlier Japanese officers in Huang, Lan-shang, "The Characteristics of Residences of Taiwan Colonial Government Officers in the Early Showa Period," *Taiwan Historic Material Research Magazine*, Vol.13 (Taipei:1999) p.144.

rugby was introduced into Taiwan along with modern education by the Chien-Kao High School during the Japan Regime.

In conclusion, there are three layers of characters that contribute to the historic values represented on the Chien-Kao High School campus. The first is the set of physical characteristics of Red Hall, the second is the symmetric spatial experience and circulation pattern in the classrooms, and the third is the coordination of formality and informality in campus spaces, with the central role of the sports field. It is fair to say that the spirit of the spatial design of Chien-Kao High School has remained consistent.

In contrast to the consistency of the circulation pattern, visual experience of the campus has been split into two. The school's main entrance gate and Red Hall comprise a historic sector of the campus, which is visually compatible with the landscape and buildings in the "Nan-Hai Scholar Garden" across the street (Fig. 2.3). The campus buildings surrounding the sports field make up the contemporary sector of the campus (Fig. 2.4). These two sectors are joined without any effort to mediate the visual incompatibility between them (Fig. 2.5). It is noteworthy that the background coloring of the modernist buildings was a great design achievement. It reduces the visual pressure of these buildings, twice as tall as Red Hall, so that the proportion of this campus has not become too distorted even though the student population has more than doubled.

Time has proved that the historic spatial pattern of Chien-Kao High School campus is effective and adequate. To improve the physical environment of Chien-Kao High School without changing its identity, the first consideration should always be the refinement of this time-proven pattern. The historic fabric of the remaining portion of

Red Hall should receive the highest degree of care to preserve its original character because it is the first and only survivor of buildings in its class, while all other buildings on campus have contemporaries in other places. Conscious awareness of the historic patterns and architectural character of campus should always be kept in mind while planning any intervention. Successful architectural design, like success in most other activities, largely depends on deep appreciation for the experience and wisdom of one's predecessors. Any new addition, besides being designed to serve its educational and social purpose, should also be presented in an aesthetic form that mediates the contrast and incompatibility between the eye-catching classical revival and the low-profile modernist architectural styles. Although architecture always embodies the purpose of its time, it cannot justify the arrogance of denying its dependence upon earlier efforts. The true value of architecture, as well as all other human creativity, can only be revealed through the test of time.

Example: Design a New Circulation for Chien-Kao High School Campus

An obvious drawback of today's campus layout is the lack of shaded walkways to connect all campus buildings. Rainy days are common in Taiwan. Students, moving between classrooms and special education facilities for classes, all walk across the open field. The application of umbrella only provides partial shedding. Students' pants and shoes constantly soak up the wet dirt and the need to carry wet umbrella and store it during class breaks is another inconvenience.

Up till 1960s, there were shaded walkways in Chien-Kao high School campus. (Fig 2.6) Students enjoyed the convenience of carefree pedestrian connections among the major buildings in Campus. Unfortunately, this walkway system was obsolete during various stages of Chien-Kao High School's post-war demolition /construction works.

A new school-wide shaded walkway system provides a great opportunity to examine the feasibility of design philosophy for intervention described in prior section.

1. Functional Aspect: The Pedestrian Movement in Campus

There are basically two categories of intra-campus pedestrian movements in Chien-Kao High School. The first category is non-linear movement. It happens when students move between their classrooms and the open sport field either for class or school-wide gathering. The second category is linear movement. It happens when students move between their classroom and other indoor facilities like laboratory, computer studio, workshop etc for special indoor courses or activities.

For category one movement, the shaded walkway can not provide much help because regardless the effect of its shading device, the students will be exposed to open field anyway.

For category two movement, the shaded walkway can provide great convenience and comfort during days of rain and severe sunlight. Thus, the functional aspect for the location of the new shaded intra- campus walkway is based on the movement analysis of category two linear pedestrian movements.

According to the author's personal experience and site survey, the linear movements can be further broken down into three types. (Fig 2.7)

The first type is the outer circulation. It is needed when students come to class in the morning or leave school after class, At one end is their classrooms, at the other end is the bus stops or the cross road toward their residences.

The second type is the main circulation, which basically goes around the perimeter of the open field. It is needed when students move between their classrooms and special educational facilities, which usually are situated in different corners around the sport field.

And the third type is a sub-circulation to connect the clusters of special educational facilities on the eastside of the campus.

The footprint of the school-wide new shaded circulation is planned according to these movements. (Fig 2.8)

2. Visual Aspect: Resemble the Historic Image of Red Hall

While the preliminary layout of the new shaded walkway system is based on linear movement analysis, the historical aspect of project site should be taken into account for the visualization of this new circulation. The awareness in design to respond to the historical Red Hall and campus layout, which has been a collective memory of all alumni above forty years old, is essential to reflect this concern.

In terms of architecture, three different scales of historical architectural characteristics of Red Hall and its campus have been identified in the previous section:

Red Hall in a detailed scale is characterized by its architecture motifs and the spaces and functions they are representing.

Red Hall in an overall scale is characterized by its E-shaped symmetric plan where double arcades surrounding both courtyards with pediment center and corners blocks plus the twin towers in front to identify the main entrance.

Red Hall in relation to the whole campus is characterized by the dynamic of formality and informality defined by building styles.

Many of these historic architectural characteristics have been destroyed after post-war new construction. One example is the lost of the dynamic of formality and informality around sport field represented by different building types. Another example is the lost of the twin courtyards within the Red Hall, which could be accessed from all arcades surrounding them.

The discontinuation of the spatial experience in campus is inevitable after those changes came with senseless development. It has undermined the integrity of history and memory of Chien-Kao High School. Today's student can hardly locate the sentiment and stories of these old legends and Alumni visiting school found this is no more the high school he knew, because the change of school's landscape has made this campus meaningless to their memory.

Today's Chien-Kao High School, regardless of its reputation and importance in Taiwan's history, has somewhat become a space with no root. What a great lost it is to the earliest public high school of Taiwan!

In reality, it is impossible to tear down the post-war new buildings and rebuild the old ones. What the author has in mind is the possibilities the new circulation can provide. Through the juxtaposition of the new circulation and existing buildings, the new created spaces and architecture icon is expected to restore the fundamental principles constituted the historical spatial order of Chien-Kao High School. (Fig 2.9)

With this new addition, students from different time period of Chien-Kao High School can at least share the compatible experience in spatial order and the texture of the campus, thus share a compatible memory in Chien-Kao high school. The continuity of the history of Chien-Kao high school then can be restored (The author's belief in the importance of continuous history has been addressed in the "Introduction" chapter).

3. Final Layout: In Response to Historical Characteristics

The final layout contains three sub-circulations to fulfill the needs of linear movements.

The outer circulation is an interpretation of the demolished corner chambers of Red Hall, which further highlights the formality of the symmetrical façade of Red Hall.

The main circulation, which goes around the perimeter of the open sport field, creates two courtyards on the north section where the demolished wings of Red Hall once stood. The northern elevation of the main circulation recreates a symmetric scheme emphasizing on Red Hall's A-B-A historical pattern. Its texture and motif are in response to the material, spacing of bays and arches and the function they represented in the demolished Red Hall. The other three sections of the main circulation connecting the informal/special educational facilities are designed as low-profile two-story continuous

corridors sharing the similar texture and motif pattern of the northern section. This layout is in response to the historical feature of formality /informality between Red Hall and other buildings surrounding the sport field.

The low-profile continuous corridor also applies to the secondary-circulation connecting the special educational facilities on the eastside of the campus, because they are as well a part of the informal section of the campus. (Fig 2.10) (Fig 2.11) (Fig 2.12)

The continuous corridors have yet another advantage, Their motif pattern is not directly related to the locations of the buildings it connects. If, in the future, there are further developments in the informal section of the campus, these corridors need not to be altered to accommodate these new changes.

4. Roof: The Mark of Our Time

In East Asia the roof of the building constantly changes according to the change of the political regime, this tradition provides the author a perfect excuse to take the roof of the new construction as a means to interpret the construction technology and the sentiments of our time.

The author designs two types of roofs for this project. The arch-rib vault is for the corridors, and the floating-column transparent flat roof is for the corner and central chambers of the northern sections. The arch-rib roof is a three-dimensioned expression of the keystone round arch which characters the arcades of Red Hall. (Fig 2.13) The floating-column transparent flat roof applying tensile structure is another three-dimensioned expression of the ceiling molding which appear in the important space of Red Hall. (Fig 2.14) The representative meanings, material, orders of span and spacing of

the architectural motifs of the original Red Hall have all been applied in the design of these new corridors and chambers with modern interpretation.

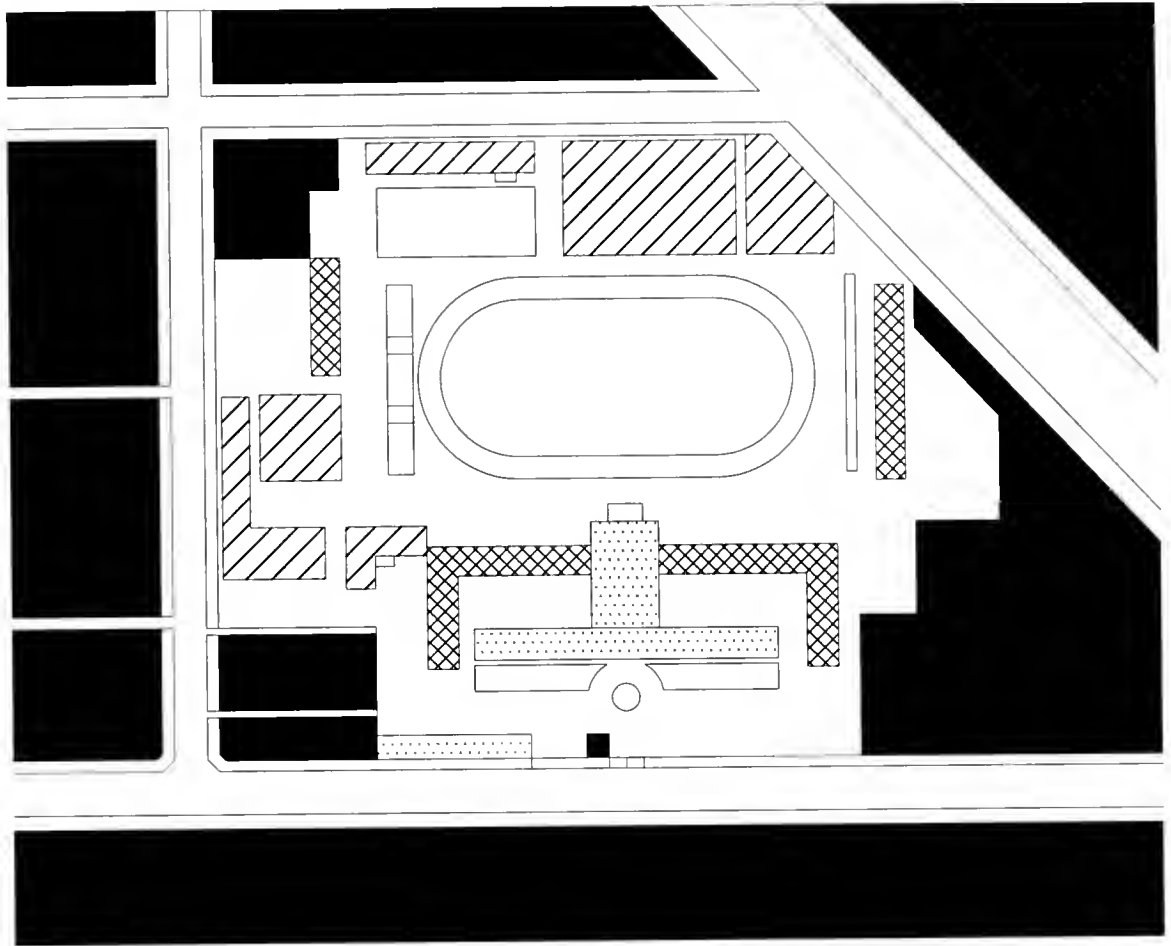
5. Continuing the Unfinished Plan: on the Issues of Feasibility

The understanding of the historical characteristics of Red Hall and Chien-Kao High School campus has been a useful guide for the design of a new circulation from beginning to the end. The meaning history brought about has also enriched this rather mundane project. The layout of Chien-Kao High School has been proved as a successful model and widely applied in public schools of Taiwan. Thus, it is reasonable to believe that the approach the author took in the thesis can also be a beneficial approach to the new projects in the campuses of other schools established during Japan colonial regime.

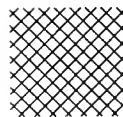


Fig. 2.1 Stairs separate classrooms from toilet, a common practice in Chien-Kao High School

Photograph by the Author



**Fig. 2.2 Diagram of the Functions of
Buildings in Chien-Kao High School**
(Drawing by the Author)



General Classrooms



Special Educational Facilities
(Lab, Library, Computer Studio, Gym,
Workshop, Studnet Clubs)



Non-Educational Facilities
(Office, Restaurant)

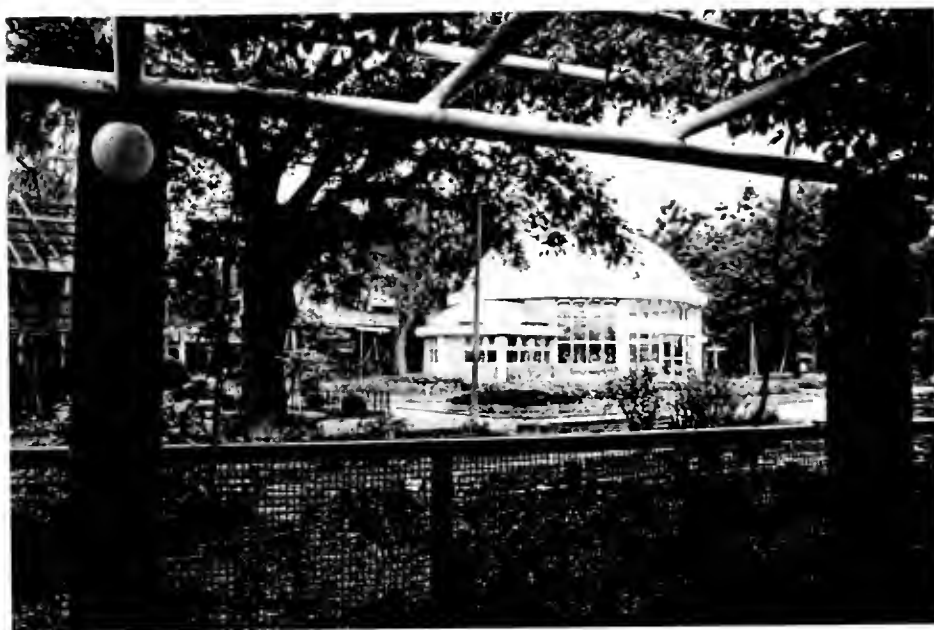


Fig. 2.3 A Scene in Nan-Hai Scholar Garden Next Street to Red Hall

Photograph by the Author

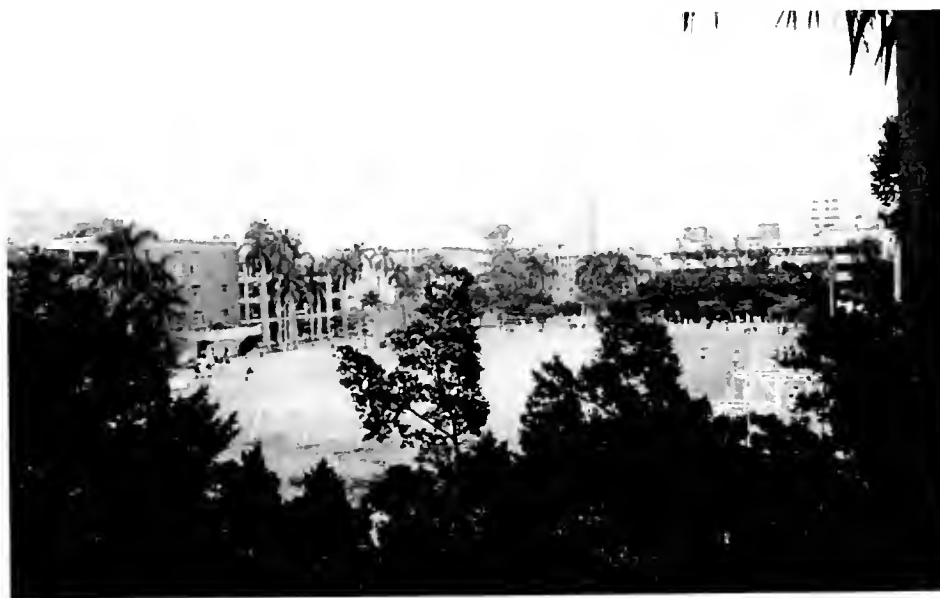


Fig. 2.4 Chien-Kao High School Sport Field Overlook

Photograph by the Author



Fig. 2.5 Red Hall and Modern Classrooms

Photograph by the Author

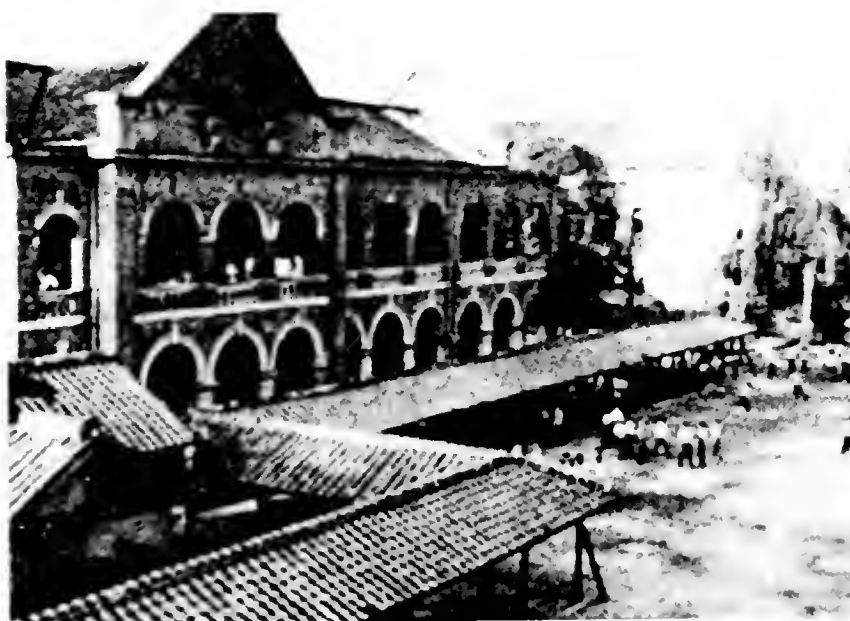
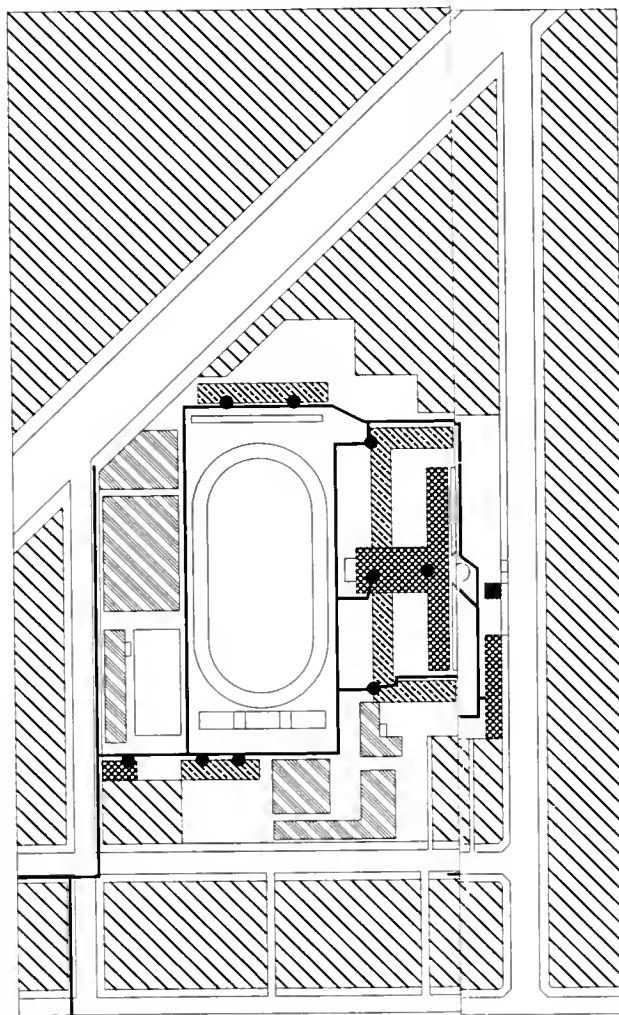


Fig. 2.6 Red Hall and Shaded Walkway

Reprinted from 1966 Chien-Kao High School Graduation Memorial Book



Time : 8:00 AM/4:00 PM
 Student Activity:
 Arriving/Leaving School,
 Moving Directly to/from
 Classrooms

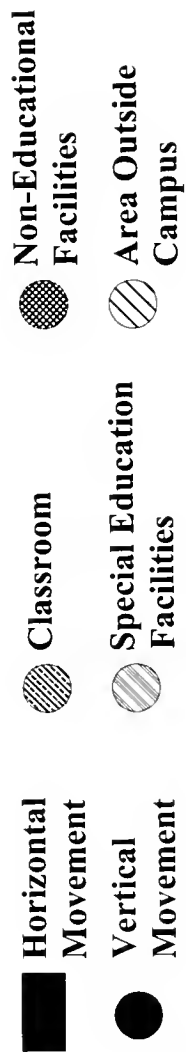
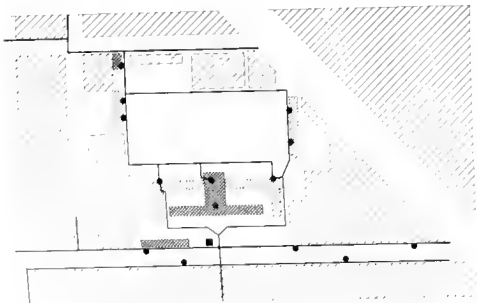
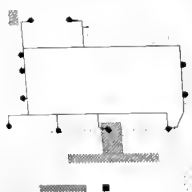


Fig. 2.7 Diagram of Linear Movements

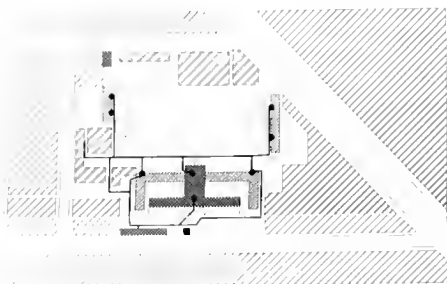
(Drawing by the Author)



Time : 8:00 AM/4:00 PM
Student Activity:
 Arriving/Leaving School,
 Moving Directly to/from
 Classrooms



Time : day time
Student Activity:
 from classroom to special
 educational facilities



Time : Lunch time
Student Activity:
 from classroom to campus
 food vendor or pickup lunch
 box from steam room



Fig. 2.7 Diagram of Linear Movements

(Drawing by the Author)

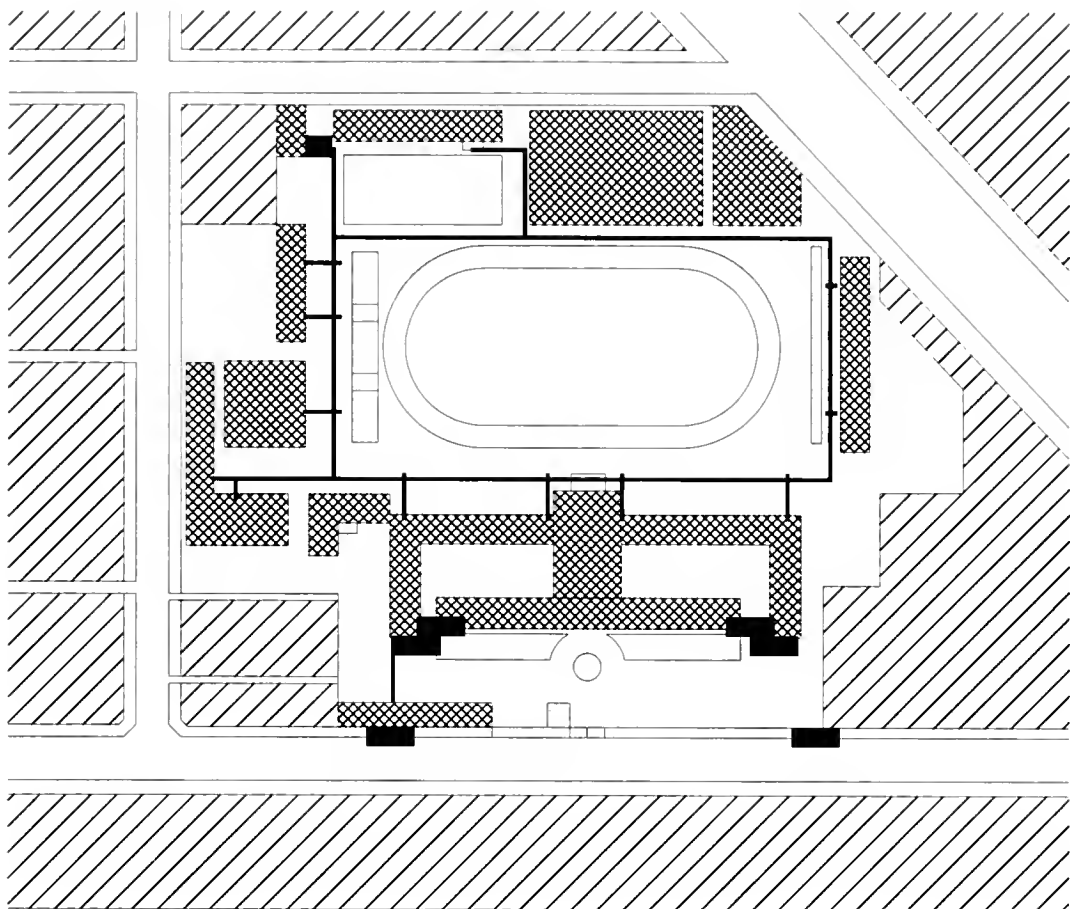
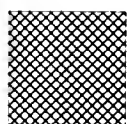
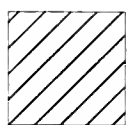


Fig. 2.8 A Preliminary Layout for New Circulation Based on Function
(Drawing by the Author)



Campus Buildings



Area outside Chien-Kao High School Campus



Footprints of New Circulation Addition

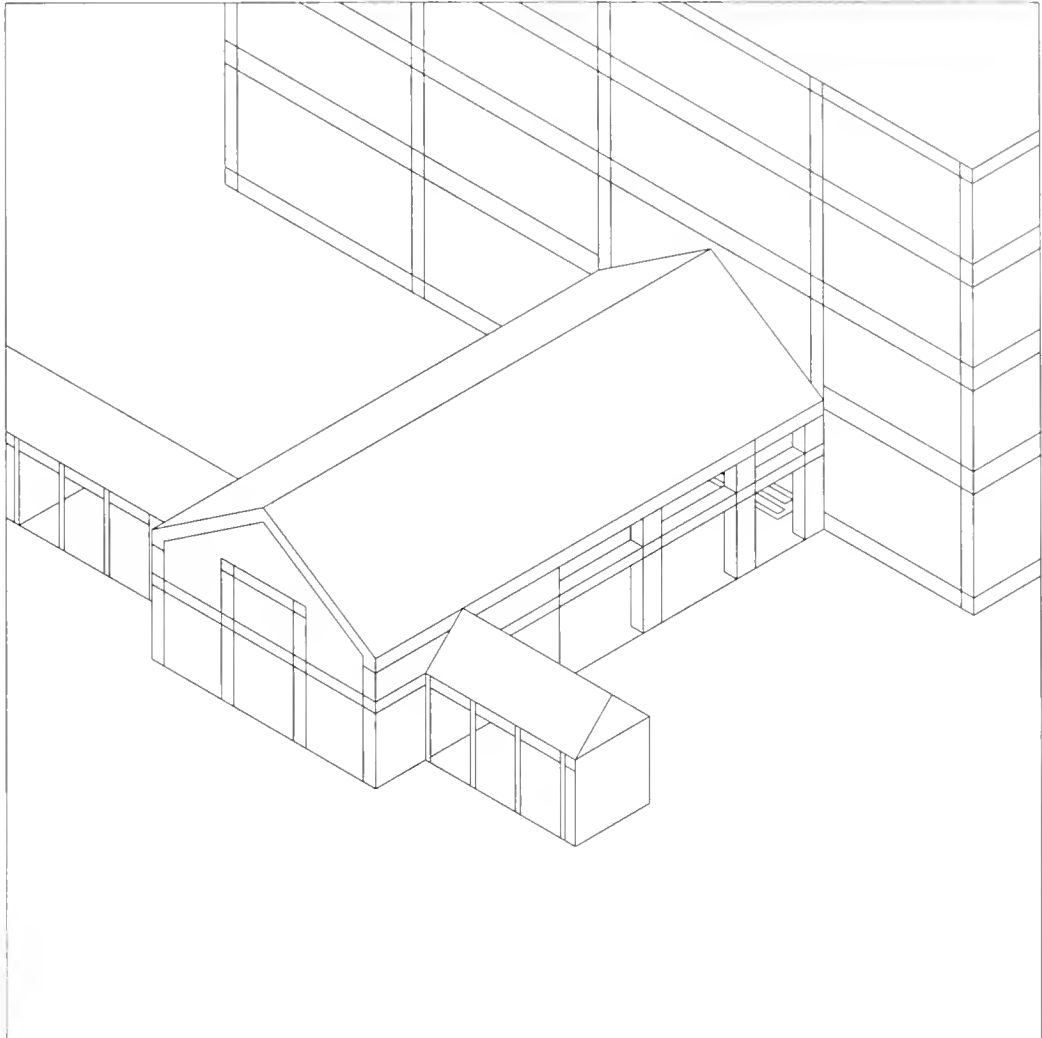


Fig. 2.9 A Conceptual Sketch Demonstrating the Restoration of the Spatiality of Courtyards in the Historical Red Hall (through the Juxtaposition of the New Circulation Additions and the Modern Campus Buildings Standing on the Site of the Demolished Red Hall Rear Wings)

(Drawing by the Author)

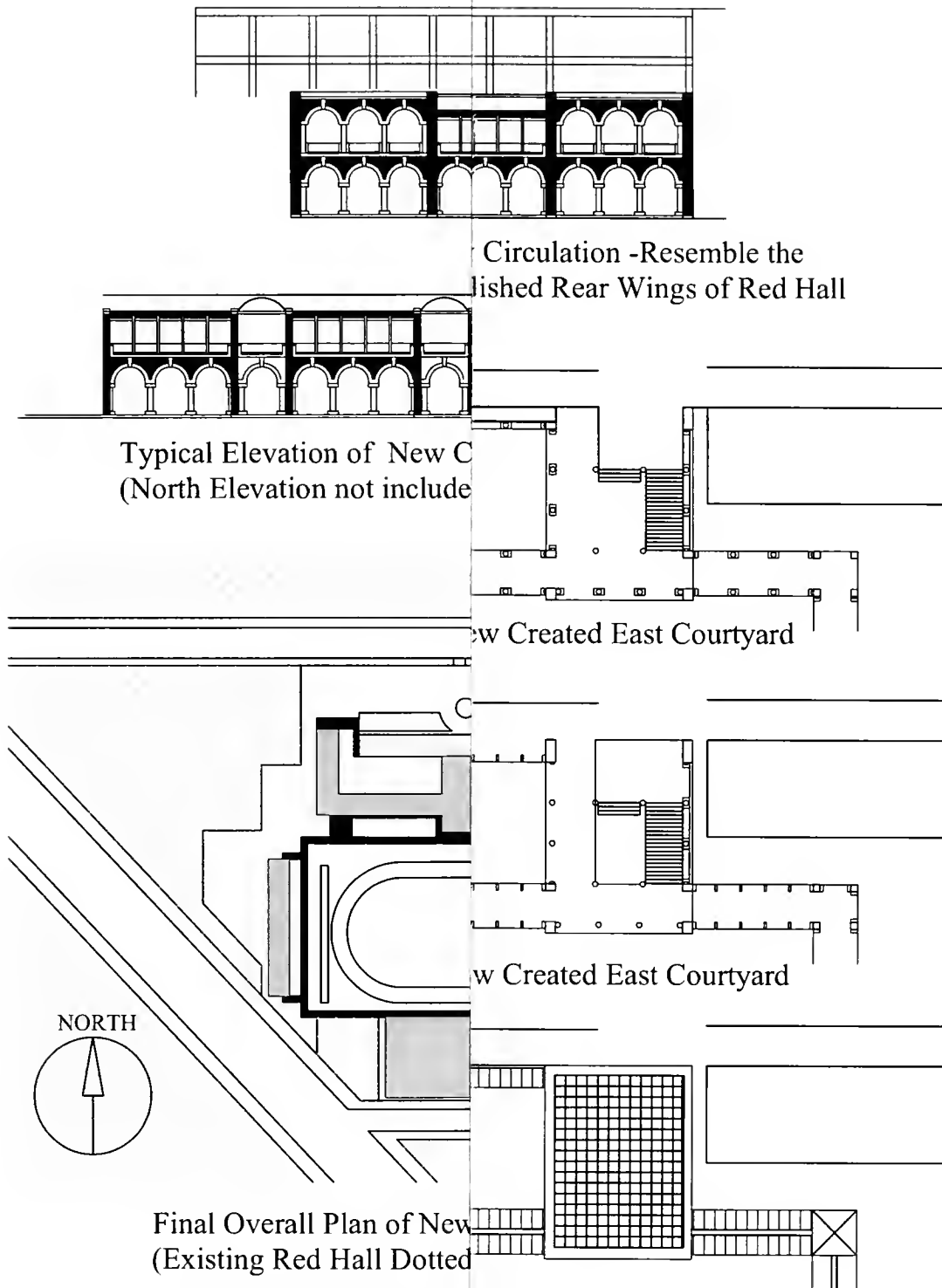


Fig. 2.10 Overall Plan Created East Courtyard
(Design & Drawing by the A

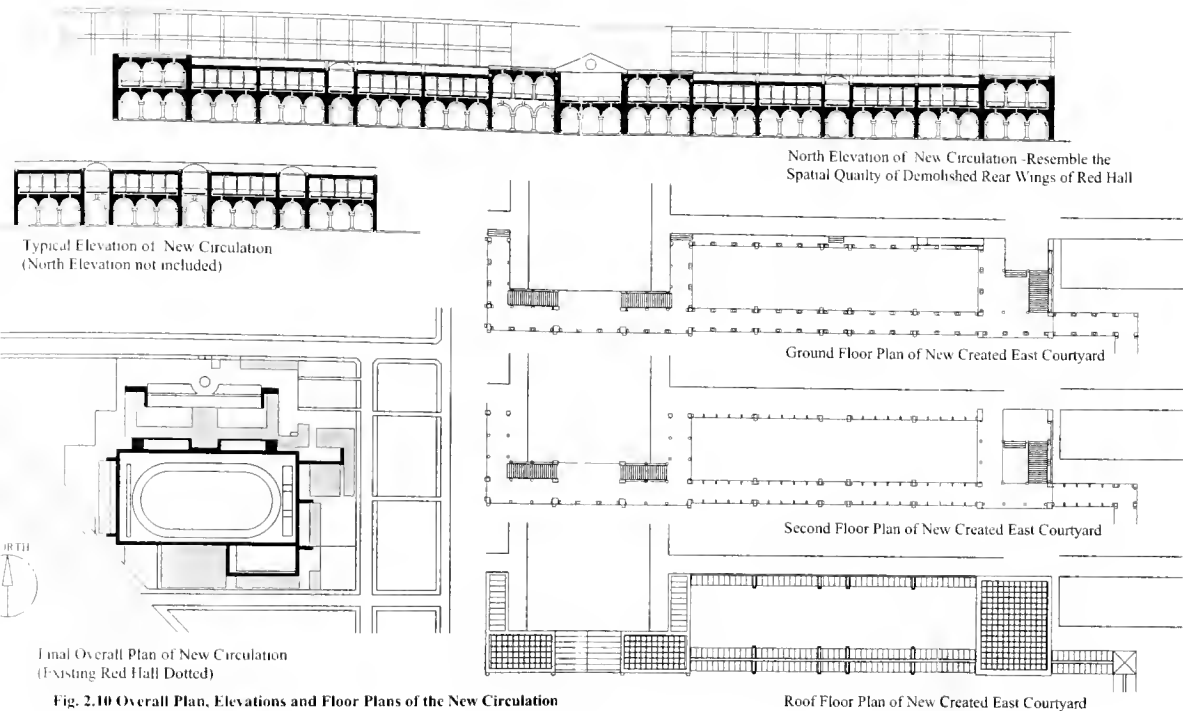
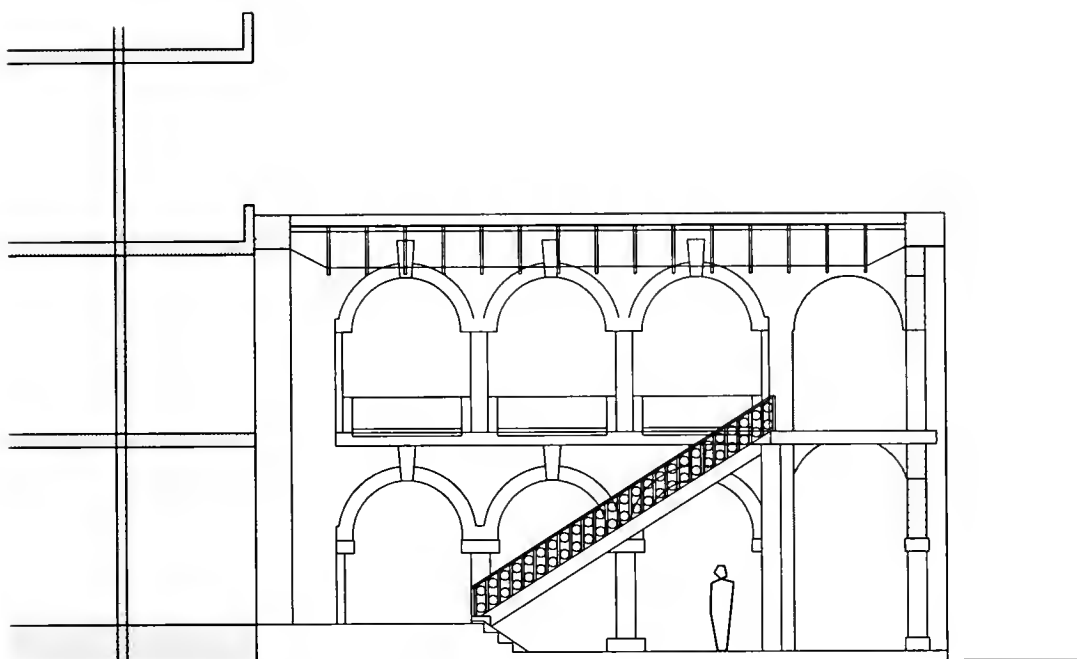
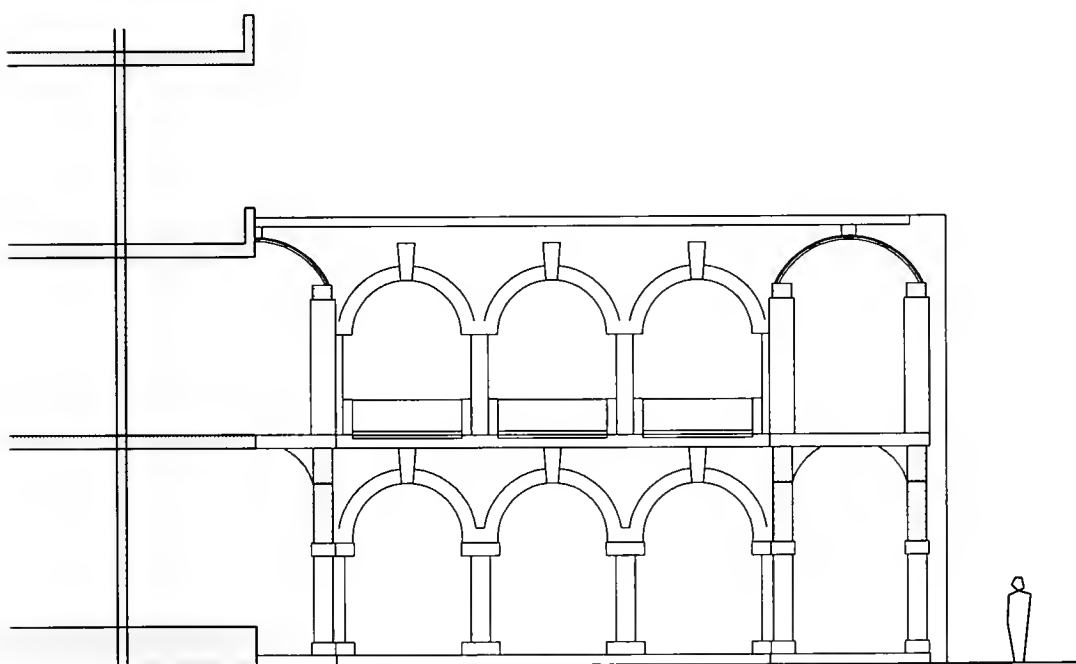


Fig. 2.10 Overall Plan, Elevations and Floor Plans of the New Circulation

(Design & Drawing by the Author)



Section through the Corner Chamber



Section through Courtyard

Fig. 2.11 New Courtyard and Corner Chamber Sections
 (Design & Drawing by the Author)

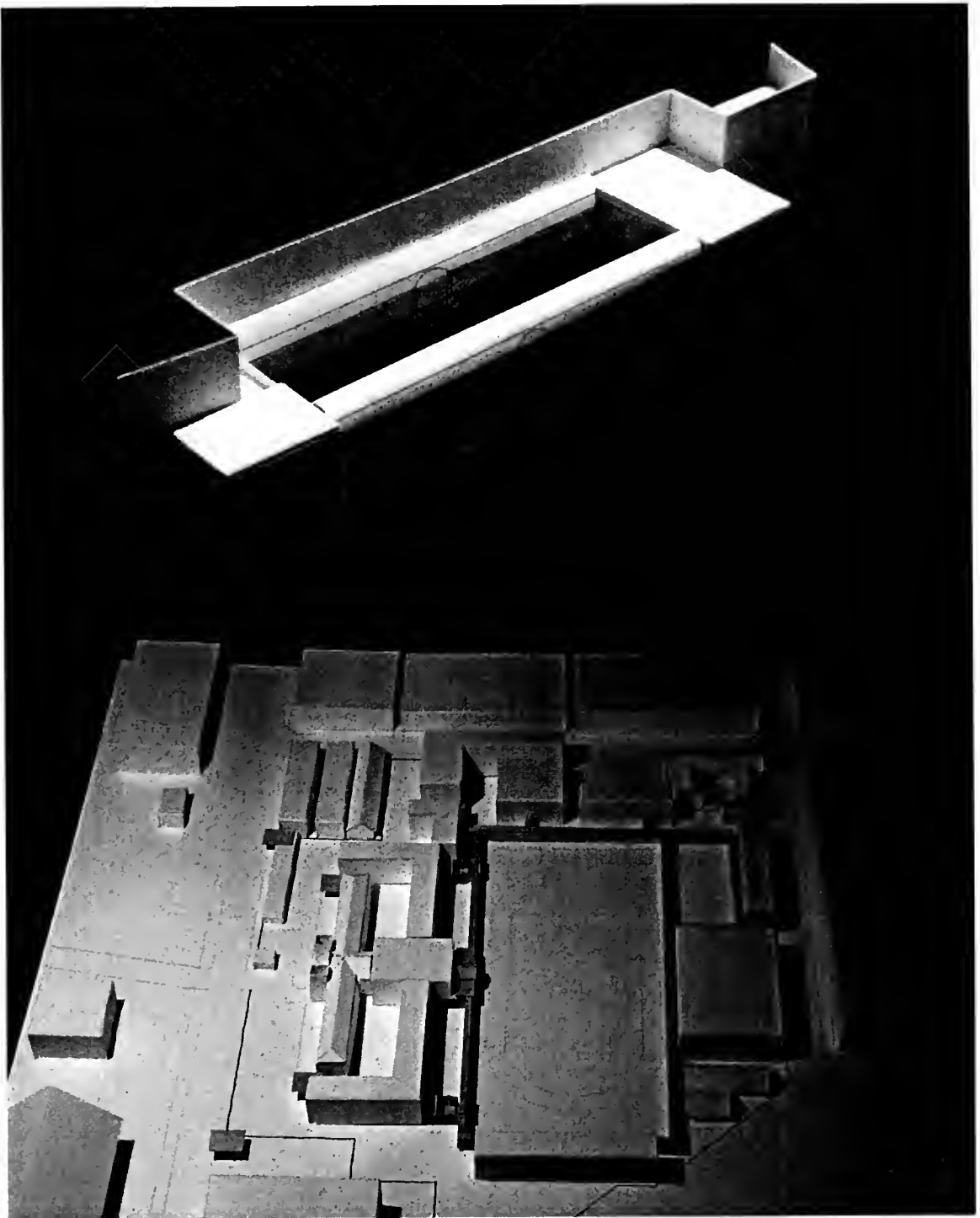


Fig. 2.12 New Campus-Wide Shaded Walkway System (Bottom) and the New Courtyard it Creates (Top)

Model and Photograph by the Author

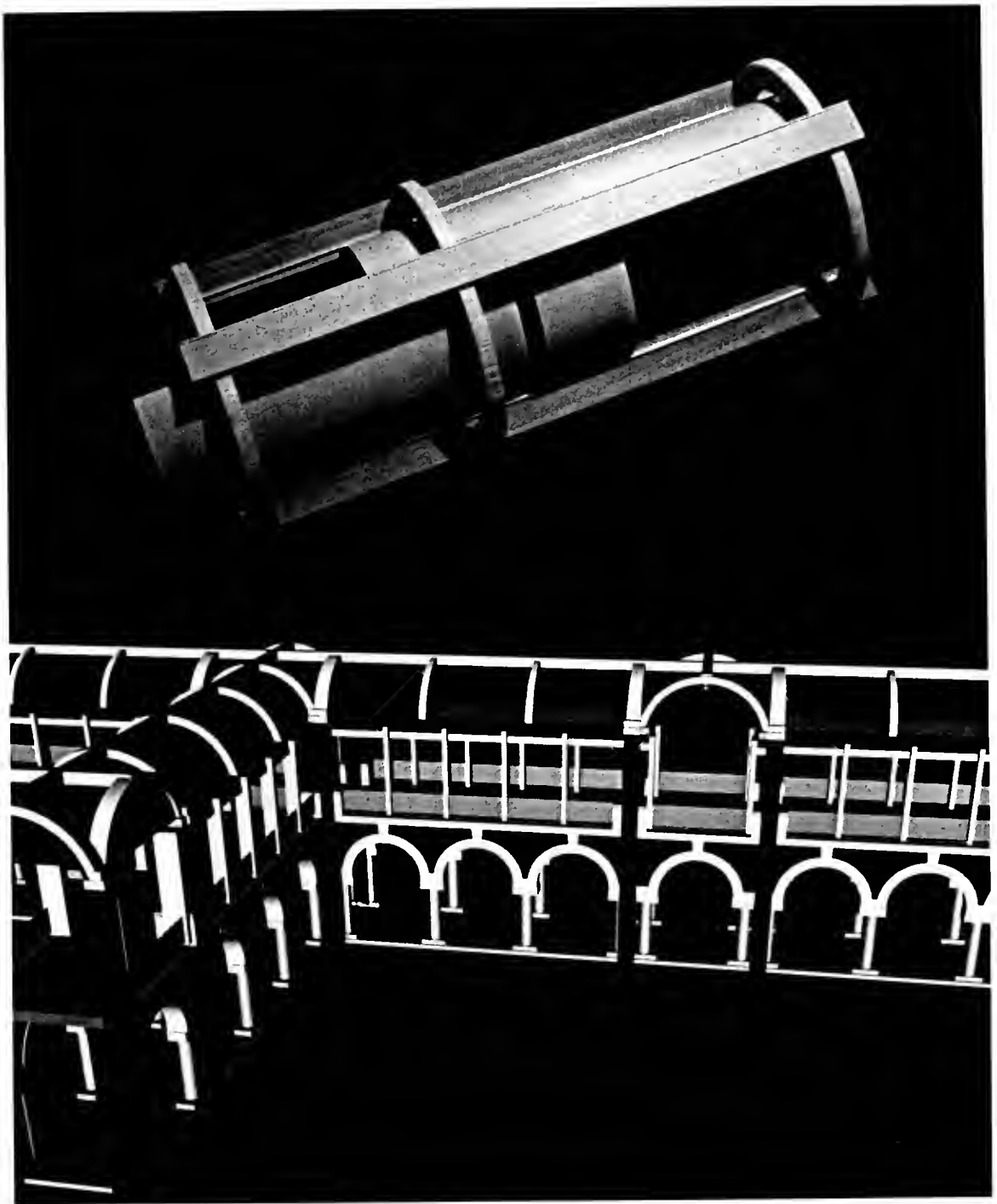


Fig. 2.13 New Corridors (Bottom) and its Round Arched Roof (Top)

Model and 3-D Rendering by the Author

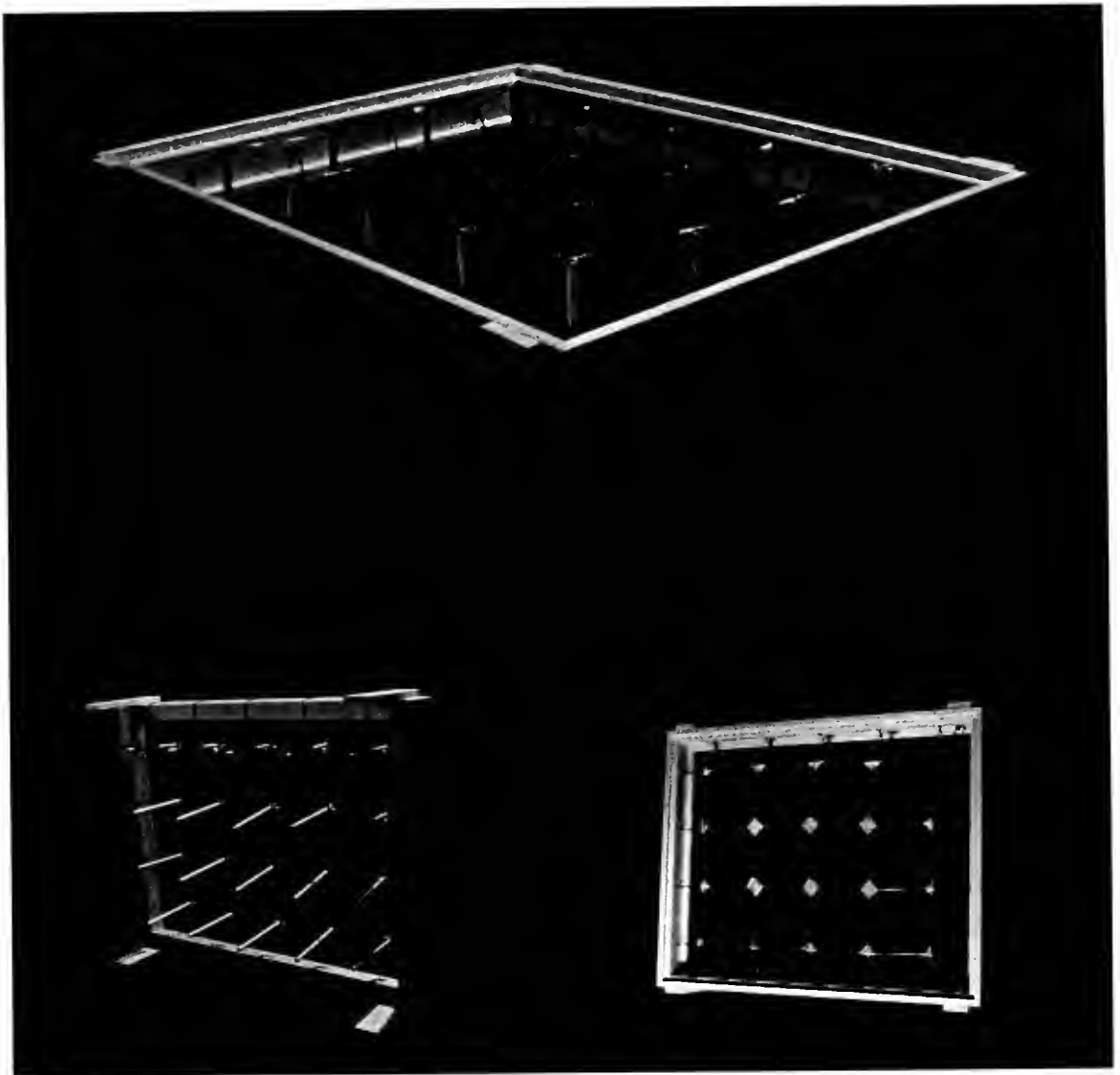


Fig. 2.14 Side, Top and Under Views of the Floating-Column Tensile Structure System for the Transparent Glass Ceilings in New Corner Chambers

Model by the Author

Conclusion

The relationship between Red Hall's architectural expression and its spatial order and construction is highly rational.

The wall is made of brick so the openings have to be arched; the floor slab and beams are made of reinforced concrete so the floor plan is the composition of rectangular. The wider bay contains a room; the narrower bay contains a circulation; the pediment projection of corner chambers is the silhouette of Red Hall's cross section; and the central pediment projections flanked by twin bell towers represented the silhouette of the Lecture Hall behind it. The composition of these towers and pediments created a strong sense of central axis and united the whole building complex with clear hierarchy. The brick pillar dividing each bay is the cross section of a transverse brick wall behind. The horizontal stringcourses indicate the location of floor slab, chair rail/hand rail, and picture rail/window arch. The foundation plinth draws a clear boundary between natural and man-made by lifting up the whole building above the ground. The cornice at the top of the building indicated the end of the masonry; the roof above is the transition between the building and the sky. Thus, a classical building trilogy is accomplished.

The author has noticed that how blatant the Japanese had transplanted the architecture idea they learned from British to Taiwan. It seems to those modernization-minded Japanese, it did not bother a bit that the icon representing their "superiority" to other Asian countries is actually a icon borrowed from another culture. In appearance, the Red Hall and the British Consulate Office in Taiwan designed by British in 1868 resemble similar architecture principle and taste. It was not until late 1930s, seventy years

after the Meiji restoration, that the “western architecture” with Japan’s identity started to emerge.

This interesting Japanese “modernization” attitude determining the Victoria British architecture accent of Red Hall has some contribution on this thesis’s design too. It helped to clarify the author’s thinking toward the general cultural context of Taiwan in relation with the physical form of the new addition in the campus of Chien-Koa High School. Most Taiwanese’s ancestors were from China. Taiwan is, on one hand, a Chinese society, but also, on the other hand, where Chinese seeks for a new life away from China. To express the sensitivity of Taiwan’s history and culture in architecture design, a form originated from the culture roots of Taiwan certainly can be one option. The other option, which the author prefers, is to explore forms not originated from but suitable for Taiwan. In the author’s sense, the spirit of Taiwan culture should be better described by the desire to explore new ideas rather than by sticking to the past glory.

Red Hall has always been a campus building of Chien-Kao High School. But its architectural icon may serve more for a political purpose than to honor the ideal of education. Red Hall was among the earliest public buildings during Japanese ruling over Taiwan. To construction the school, Japanese colonial government had first to clean up a big piece of rice field outside the South Gate of the old Taipei City of Ch’ing dynasty, then build roads between it and the old district, then construct the infrastructure to delivery electricity and water. When Red Hall was erected, not any building in Taiwan from Ch’ing dynasty, from western missionaries, merchants, and governments, or even from the Japanese colonial government itself can compare to Red Hall’s scale, technology and western delicacy. It would be another ten years before the next

masterpiece of Kingo Juro, Taiwan University Hospital, was erected. And another fifteen years before the grandest of all “Victoria Architecture” influenced public buildings, the Taiwan Colonial Governor Palace was erected.

It is not difficult to visualize what an image through Red Hall the new-coming Japanese rulers had delivered to the Chinese-ethnic Taiwanese at a time even a pair of shoes were luxurious goods to them. In a way, it demonstrated the advanced spirit and insuppressible strength of the new ruler. In another way, it demonstrated the superiority of western civilization to the old Confucius tradition. What has accompanied with the erections of Victoria Brick public building were the new urban planning, new building code, electricity, public water supply and sewage system, public health reformation, education system reformation and industrialization. Taiwanese alike, poor and wealthy, Chinese-minded or not, finally had to accept the fact that a new era has arrived and the Japanese big boss would not go away soon.

Although Spanish and Netherlands had occupied Taiwan for thirty years during seventeenth century, it was Japan, an Asian country, through its fifty-year ruling that had consolidated the western way in Taiwan. As Japanese reinvented their modernization movement with new fashion and aesthetics, the Victoria British architecture accent of Meiji Restoration was outdated around 1930s. However the establishment of the authority of Japanese colonial regime to Taiwanese indigenous was no doubly connected with the architectural icon of this period.

As much humiliation and suffering as any other colony indigenous people had, Taiwanese also learn a precious lesson from Japanese rulers: the power of purchasing western knowledge. It is not unusual in Chinese tradition that poor parents would sell

their farmland and property to support their offspring's education. But in Mainland China, it has been constantly an issue of debate on what to learn and how to make "western curriculums" serve under the purpose of traditional Chinese value even till the very end of Ch'ing Dynasty. This debate seems to have never happened in Taiwan. During Japan's colonial Regime, Taiwanese, if financially permitted, studied Chinese classics in private school while attending the western-curriculum elementary public school set up by Japanese. But once the students got to the middle school and advanced further, all their efforts would go to the western curriculums. Countless Taiwanese earned their expertise in agriculture, medical science, mining and civil engineering (Taiwanese were not allowed to study law and political science). Many of them were absorbed into colonial government bureaucratic system or Japanese private enterprises for low-level positions. Some with strong political conciseness inspired by European social movement and Chinese revolution became early advocates of the non-violent social reform /democratization movement of Taiwan.

These Taiwanese experts, many Chien-Kao High School alumni included, proved their indispensable merit in stabilizing Taiwan social order during the years of chaos after the end of world war two. They kept Taiwan running after Japan rulers have retreated and the Chinese Nationalist Party still concentrated all its effort to fight its losing civil war in Mainland China. In the coming years, Many of these Taiwanese were questioned for their loyalty and prosecuted by the Chinese National Party regime. Like many other history eventualities, the wheel of fate started turning once the idea has been seeded into people's mind. It took another fifty years before Taiwanese gained the democracy. But as early as in 1950s, when for the first time in history Taiwanese took charge to restore Red Hall and

Taiwanese students became the majority in Chien-Kao High School, a modernized Taiwan was destined to emerge. All the rest was just a matter of time.

Bibliography

On Chien-Kao High School

傅禺, 建中養我三十年 (台北市:大地出版社, 1980)
Fu, Yu, *Thirty Years in Chien-Kao High School* (Taipei: Da-Di Publish, 1980)

趙台生(編), 建中世紀 (台北市:建國中學, 1998)
Chao, Tai-Sheng (ed.), *Chien-Kao High School Centenary* (Taipei: Chien-Kao High School Press, 1998)

台灣台北州立台北第一中學校 沿革(東京市:麗正會, 1985)
The Evolution of Taiwan, Taipei First High School (Tokyo: Japanese Alumni Association, 1985)

建國中學畢業紀念冊, 1950年至1980年(台北市)
Chien-Kao High School Graduation Book, 1950 to 1980 (Taipei)

On Taiwan

Foght, Harold and Alice Foght, *Unfathomed Japan* (New York: Macmillan Company, 1928)

Franck, Harry, *Glimpses of Japan and Formosa* (New York: The Century Co., 1924)

總督府事務成績提要(台北市: 1895-1945)
Colonial Government-General Yearly Working Report (Taipei: 1895-1945)

台灣日日新報(台北市: 1895-1945)
Taiwan Daily News (Taipei: 1895-1945)

陳正祥, 台北市誌(台北市:南天書局: 1986)
Chen, Chung-Shang, *Taipei City Record* (Taipei: Nan-Tian Publish, 1986)

周百煉 (編), 台北市誌教育篇 (台北市: 1962)
Chou, Bai-Len (ed.), *History of Education in Taipei City* (Taipei: 1962)

莊展鵬 (編), 台北古城之旅 (台北市:遠流出版公司, 1992)
Chung, Chang-Pong (ed.), *Journey of the Old Taipei City* (Taipei: Yuan-Liu Press, 1992)

王啓宗, 台灣的書院 (台北市:1988)
Wang, Chi-Tzung, *Tradition School of Taiwan* (Taipei: 1988)

何健民(編), 台灣史料研究 第十三輯 (台北市:1999)
Ho, Chien-Ming (ed.), *Taiwan Historical Material Studies Vol.13* (Taipei: 1999)

張延生(編), 台灣史與台灣史料研究 (台北市: 1993)

Chang, Yen-Shen (ed.), *History and the Historical Material of Taiwan* (Taipei: 1993)

Architecture of China and Taiwan

梁思成, 中國建築史 (北京市: 1954)

Liang, Szu-Cheng, *History of Chinese Architecture* (Beijing: 1954)

趙廣超, 不只中國木建築 (香港: 三聯書店: 2000)

Chao, Kung-Chau, *Chinese Architecture not only made of wood* (Hong Kong: San-Lian Bookstores Co Ltd., 2000)

李乾朗, 台灣近代建築 (台北市: 1980)

Lee, Chien-Lang, *Modern Buildings in Taiwan: 1860-1965* (Taipei: 1980)

李乾朗, 淡水紅毛城 (台北市: 1988)

Lee, Chien-Lang, “*Hung Mao Ch'eng*” – *Fort San Domingo and Former British Consulate* (Taipei: 1988)

Architecture Design with Historical Context

Ruskin, John, *The Seven Lamps of Architecture* (Sunnyside, Orpington, Kent: G. Allen, 1880)

Venturi, Robert, *Complexity and Contradiction in Architecture* (New York: 1966)

U.S. Department of Interior, National Park Service, *National Register Bulletin: How to complete the National Register Registration Form* (Washington D.C.: 1997)

Victorian Architecture in Britain and Western Architecture in East Asia

Summerson, John Newenham, Sir, *The Architecture of Victorian London* (Charlottesville, VA: University Press of Virginia, 1976)

Summerson, John Newenham, Sir, *Victorian Architecture in England: Four Studies in Evaluation* (New York: W.W. Norton & Company, Inc, 1971)

Curl, James Stevens, *Victorian Architecture* (London: David & Charles Publishers, 1990)

Thompson, Paul, *William Butterfield* (London: Routledge & Kegan Paul Ltd., 1971)

Dixon, Roger and Stefan Muthesius, *Victorian Architecture* (London: Thames and Hudson, 1978)

Fujimori, Terunobu and Tan Wan, Ed, *A Comprehensive Study of East Asia Architecture and Urban Planning: 1840 – 1945* (Tokyo: 1996)

Frampton, Kenneth and Kunio Kudo, *Japanese Building Practice: From Ancient Times to the Meiji Period* (New York: Van Reinhold, 1997)

Coaldrake, William H., *Architecture and Authority in Japan* (New York: Routledge, 1996)

Suzuki, Hiroyuki and Tohru Hatsuda, *Urban Architecture in Meiji: A Visual Anthology* (Tokyo: 1990)

Takashima, Shoji and al., *Fine Arts of Modern Japan IV - Architecture and Design* (Tokyo: Kodansha, 1990)

General Social Contexts of Taiwan, Japan and East Asia

Clyde, Paul H. and Burton F. Beers, *The Far East: A History of Western Impacts and Eastern Responses: 1830 – 1975* (Englewood Cliffs, NJ: Prentice-Hall, Inc, 1975)

Fairbank, John K., Edwin O. Reischauer, and Albert M Craig, *East Asia: Tradition and Transformation* (Boston, Mass: Houghton Mifflin Company, 1973)

Spence, Jonathan D., *The Search for Modern China* (New York, N.Y.: W.W. Norton & Company, Inc., 1990)

Hsu, Immanuel C. Y., *The Rise of Modern China* (New York: Oxford University Press, 1995)

Makoto, Aso and Amano Ikuo, *Education and Japan's Modernization* (Tokyo: Ministry of Foreign Affairs, 1972)

Okamoto, Kaoru, *Education of the Rising Sun: An Introduction to Education in Japan* (Tokyo: 1992)

Adams, Don, *Education and Modernization in Asia* (Reading, MA: Addison-Wesley Publishing, 1970)

Chao, Linda and Ramon H. Myers, *The First Chinese Democracy: Political Life in the Republic of China on Taiwan* (Baltimore: the Johns Hopkins University Press, 1998)

Hood, Steven J., *The Kuomintang and the Democratization of Taiwan* (Oxford, UK: Westview Press, 1997)

Weller, Robert P., *Alternate Civilities: Democracy and Culture in China and Taiwan* (Oxford, UK: Westview Press, 1999)

Index

B

Battle of Yellow Sea, 6
Burgess, William, 40
Butterfield, William, 40, 41

C

Classical Revival
Colonial Government
Condor, Josiah, 40
Confucian, 7, 8, 10, 38, 39
Confucianism, 8, 9
Confucius, 38

D

Diack, J., 6

E

Edo bay, 6
Eton College, 40

F

Fire Insurance Company, Tokyo, Japan,
40

I

Imperial Museum, Tokyo, Japan, 40

K

Kondo, Juro, 10, 40, 41

M

Meiji Restoration, 6, 37, 39, 90, 91
Meiji Emperor, 6, 8
Ministry of Navy, Tokyo, Japan, 40

Mountford, E.W., 41
Modernism, 12
Modernist, 11, 12, 62, 63, 65, 66, 67, 69,
70
Modernization, 2, 5, 6, 8, 41, 60, 68, 89,
90, 91

N

Northampton Institution, London, 41

O

Opium War, 6

S

Student Hall of the Naval Academy,
Hiroshima, Japan, 39
St. Alban Church, 41

T

Tatsuno, Kingo, 40

V

Victorian Architecture, Britain, 40, 61,
90, 91

W

World War II, 7, 11, 30, 32, 39, 61, 63,
65, 92
Pre-War (Pre-World War II), 3, 38
Post-War (Post-World War II), 36, 38,
62, 63, 66, 71, 74

FISHER
FINE ARTS LIBRARY

SEP 12 2001

UNIV. OF PENNA.



N/1198/03059/7640X

3 1198 03059 7640



N/1198/03059/7640X